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F. V. KNIEST, R.P., Omaha, Neb. Est. 1904.

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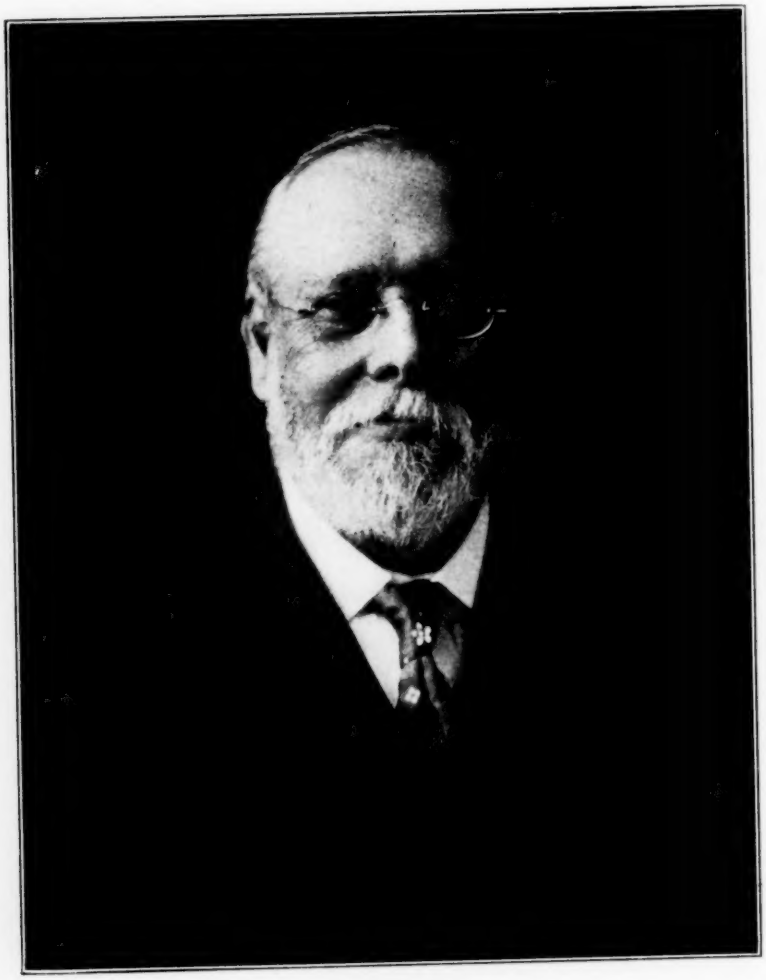
CONRAD LEWIS DIEHL

Twenty-second President of the American Pharmaceutical Association.
For thirty-eight years Reporter on the Progress of Pharmacy.

Prof. C. Lewis Diehl served his nation in its time of need during the Civil War; his faithful services since to his fellows in the pharmaceutical profession have been characterized by a devotion which calls for appreciation and gratitude not only from every member of the American Pharmaceutical Association, but also from the pharmacists and chemists of the world.

J. P. R.



C. LEWIS DIEHL

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C. LEWIS DIEHL, PH.M.

Conrad Lewis Diehl, for half a century, almost continuously, Reporter on the Progress of Pharmacy of the American Pharmaceutical Association, was born August 3, 1840, in Neustadt A. H., in the Palatinate (Rhenish Bavaria), the eldest son of Therese Phillipine Rossi and Conrad Lewis Diehl. In 1849 his father came to the United States as a political refugee, and was followed in 1851 by the mother and children. His mother did not live for many months after their arrival, and Lewis, with a brother, entered school at Oakfield Academy, near St. Louis, while the other children were distributed among relatives in Europe.

In April, 1854, he left school permanently and joined his father in Philadelphia, securing a position with R. and G. A. Wright, perfumers (druggists' sundrymen), in whose employ he remained till 1857. In 1858 he engaged to serve a four years' apprenticeship with Dr. John R. Angney, of Spruce and Fifth Streets, meanwhile attending the Philadelphia College of Pharmacy, from which institution he graduated in 1862. To become acquainted with German pharmacy he accepted a position with Emilius Herwig, of Fifth and Brown Streets, but on being transferred, several months later, as manager to a branch store, he severed connections and entered the employ of John Wyeth and Brother, who were then about to fit out a laboratory to engage extensively in the manufacture of pharmaceutical preparations. He remained in charge of this laboratory until August, 1862, when he enlisted in the 15th Regiment of Pennsylvania Volunteer Cavalry. On being wounded at the battle of Stone River he was discharged, and, after convalescence, obtained the position of assistant chemist in the United States Army Laboratory of Philadelphia, remaining from April, 1863, to January, 1865, and gathering excellent experience in the manufacture of numerous chemicals.

Contemplating the purchase or opening of a pharmacy in Chicago, and with the object of familiarizing himself with the business there, he accepted a position with Ernst George Mueller, but soon engaged in the more congenial work of

manufacturing chemicals in the laboratory of Bender, Mahla & Co. (afterwards Mahla & Chappel), remaining there till July, 1865, when he accepted an offer in Louisville to reorganize and manage the Louisville Chemical Works. He remained in charge of this concern till December, 1868.

In June, 1869, he purchased a drug store in Louisville (his wife's home), at the corner of First and Walnut Streets, and in August, 1874, he opened a new store at the corner of Third Avenue and Broadway, where he continued successfully till November, 1903.

The professional side of his career began with the contribution of a paper on Oleum Æthereum at the Baltimore meeting of the American Pharmaceutical Association in 1863, when he was elected a member. In 1866 and 1867 he was appointed chairman of the Committee on the Progress of Pharmacy; in 1872–3 he made a volunteer report on the Progress of Pharmacy—the chairman of the committee being unable to act—and presented it at the Richmond meeting in 1873. At this meeting he was elected to the newly-established office of Reporter on the Progress of Pharmacy, in which he continued till 1890, when ill-health caused him to decline re-election; he again took the office in 1895, and held it continuously to 1915. In 1871 he was elected first vice-president of the Association, and in 1874 to the office of president.

In 1870 he aided in the organization of the Louisville College of Pharmacy, was elected its president, and re-elected annually till 1881, when he declined. He occupied the Chair of Pharmacy of this college from 1871 to 1886 (except 1881–1883), and again from 1896 to the present day.

From 1870 to the present time he has been a delegate from the Louisville College of Pharmacy or the Kentucky Pharmaceutical Association, or both, at each Convention for the Revision of the United States Pharmacopœia, serving on the Committee of Revision of 1890 and 1900 and being again elected a member of that committee at the last convention.

In his own State he was honored by appointment on the first Board of Pharmacy in 1874, on which he remained till 1886; in 1897 he again accepted appointment, and has been a member to the present time.

He has served as president of the Kentucky Pharmaceutical Association, of which he has been a member since its organization in 1877. In March, 1887, his Alma Mater conferred upon him the degree of Master in Pharmacy.

JULIUS A. KOCH.

EDITORIAL

E. G. EBERLE, Editor 253 Bourse Bldg., PHILADELPHIA

"THE LABORER IS WORTHY OF HIS HIRE" AND THE PUBLIC A "SQUARE DEAL."

THE Stevens Bill of the Sixty-third Congress (H.R. 13,305) was introduced by Representative R. B. Stevens on February 12, 1914, but failed of consideration. It was introduced by Representative W. A. Ayres in the present session of Congress on December 14, 1915, and is now known as the Stevens-Ayres Bill (H. R. 4715). It should not be confused with the Stephens Bill recently introduced by Representative D. V. Stephens, from which it differs; the Stephens Bill is a price-maintenance measure, also, but it permits special discounts for quantities, cash, and freight differentials.

The Stevens-Ayres Bill *aims to give the manufacturer the legal right to make a price contract, or rather a contract for the maintenance of the resale price of "branded" goods, at wholesale, at retail, and to the public.*

Under the law, as it now stands, the manufacturer may "brand" his goods, but he has no legal right to fix their resale price and protect himself against property-loss by predatory price-cutting.

While the primary effect of price-cutting on branded goods may be of benefit temporarily to the public in lower prices, the secondary effect is inexcusable injury to the public through the substitution of other goods and the elimination of branded goods from the market.

The Stevens-Ayres Bill is simply an attempt to standardize the price of branded goods—to expand the established trade policy of "one-price only" into a policy of "one-standard-price only for branded goods." The bill applies *only* to branded goods—trade-marked, patented, copyrighted, or in any way so branded that the common law will uphold the right to name, style, or other individuality in merchandising. It will protect products of a kind only. It will *not* apply to the sale of general commodities like "flour, sugar, salt, soap," etc., but it can be made to apply to "brands" of these commodities, sold in packages as such and so marked. It will not eliminate competition between manufacturers, but it will make competition in brands dependent on quality and service and not on price only, as at present. It will protect manufacturers in the sale of individualized goods and the public in the purchase of the same.

The provisions of the Stevens-Ayres Bill are not mandatory. The manufacturer may or may not avail himself of them, but in view of the opportunity they will give him to protect the price of his "branded" goods against "unfair competition," and the destruction of his property rights, there is little doubt as to his probable attitude.

The Stevens-Ayres Bill has the enthusiastic support of manufacturers, wholesalers, and retailers throughout the country, and, where its general principles are understood, of the public, but the bill will fail of passage unless it be sufficiently backed by public opinion, and the big question is, "Is the Stevens Bill in the interest of the public?" The answer to this question is another query: "Is cut-throat competition in the interest of the public?"

It has been recently said by the Louisville Post that "Cut-throat competition, from its very nature, is self-limited, and we can afford to let it alone. So long as men do not lie and steal and enter into illegal combinations to destroy their competitors, we can afford to let competition alone. That is sound business, and there is no other basis upon which business can be built up."

Now, as a matter of fact, there is legitimate competition and there is illegitimate—the kind that stimulates the growth and development of business, and the kind that strangles it. It is *not* true that cut-throat competition is a self-limited disease and will cure itself; cut-throat competition is a chronic disease that grows by what it feeds upon, and its ultimate result is death to legitimate business.

The practice of the medical world to-day is in the direction of preventive medicine—curing disease before it happens, to use an Irishism—and the tendency of the business world should be to prevent diseased conditions, and not wait until they become chronic.

When business men indulge in predatory price-cutting, selling branded goods of established reputation for practically cost as bait to lure the public and facilitate the sale of other goods on which there are large profits, they cannot be charged under the law with lying and stealing, but the moral effect is the same. They are using the good name of superior products to facilitate the sale of other products, and as the greatest of all bards has written:

> Who steals my purse steals trash;
> But he that filches from me my good name,
> Robs me of that which not enriches him,
> And makes me poor indeed.

The predatory price-cutter uses the good name of quality-products to enrich himself at the expense of the public and the manufacturer, because, if standard products are to be retailed at no profit, it is only a question of time until they will *not* be sold by retail dealers generally, or even by the cutters themselves; and both the public and the manufacturer will suffer.

The value of a standard product to the public is not only in the quality of the product and the quantity the consumer receives for his money, but also in the service which accompanies the product—convenience of package, accessibility of market, and the guarantee of the manufacturer who stands behind the product.

Ward Macauley, in an article on "The Maintained Price" (The Forum), says: "Modern business must rest on the secure foundation that every article must be paid for; every item from raw material to consumer must be adequately

compensated. The maintained price is the most effective means as yet suggested to that end. The maintained price means stable business conditions, power to enforce good pay, good hours, and good surroundings for employees. It means the placing of competition on the higher basis of superior service. Customers will no longer seek the advice of the man who knows the most about his business and then purchase from a man who will shave half of one percent off the selling price. The maintained price places brains at a premium. The cut-price fosters trickiness and the lowest ideals of business. The maintained price tends to make the dealer and the manufacturer alike feel a responsibility for the customer. The 'cut-rate' tends to the feeling 'a bargain's a bargain, let the dealer beware.' Even if it were true that cut-rate prices occasionally resulted in actually saving money for consumers, it would not be a genuine benefit, for it would be better for us to do with less than to have things we have not paid for. As a matter of fact, however, cut-prices are always, and must be, in the very nature of things, compensated for by higher prices on other merchandise. The maintained price conserves the equality of the customer and assures the manufacturer of well-advertised goods the power to treat all of his patrons alike, regardless of their place of residence."

There is something more in the business life of to-day than the piling up of dirty dollars—and this is: giving the public a square deal in the quality, quantity, and service of goods bought and sold, giving the world as much as, or more than, is taken. Or, as Marco Morrow, in the "Rotarian," so beautifully expresses it:

The power to give the world more than I take.
The power to be a man!
Let me not be
A mendicant at mankind's busy door
Beseeching alms, in heaven's name, my lords!

Oh, I have seen them in the market place,
Rich merchants clothed in purple, haggling there
Over some tawdry bauble with such greed
They made the very beggars sick with scorn.

Let me not be a gorging bird o' prey
That gluts upon the carrion of earth—
The crafty man who waits disaster's blow
And pounces on the hapless, hopeless one.
Let me not be the high-born mendicant
Who idly eats Life's bread and drinks Life's wine—
All alms bestowed by Chance or Circumstance.
Let me not be a beggar at Life's board,
But give to me, oh God, the power to serve
My fellows and my age—the power to live—
The power to work—co-laborer with Thee!
And give to me that honest pride which scorns
To take more than my honest share—The pride
To give my fellow man more than his due.

J. W. England.

WILLIAM PROCTER, JR., MONUMENT.

THE general regard of posterity for their worthy predecessors and following their examples are among the rewards of those who have deserved recognition in their respective activities.

The present generation of pharmacists has decided to place a bronze statue of William Procter, Jr., in the Smithsonian grounds, Washington, as an evidence of their appreciation and recognition of his distinguished services. This will acquaint the public generally and future pharmacists in particular with the high regard entertained for the "Father of American Pharmacy."

The movement originated with the American Pharmaceutical Association, and the promotion was placed under the direction of Mr. John F. Hancock, of Baltimore. The National Association of Retail Druggists actively and enthusiastically joined in this labor of love and therefore is entitled to share in the honor, as it has in the privilege of participating in this worthy undertaking. This work was truly a privilege; for men without these affiliations would gladly have erected this memorial to the eminent pharmacist whose memory is revered wherever pharmacy has progressed. The guiding thought has been that all American pharmacists should have an opportunity to share in the joy of giving to so worthy a cause. There are still a few pharmaceutical associations that are not represented in the list of donors. This has doubtless been an oversight on their part, for it would become a source of keen regret if they overlooked the first opportunity of this kind accorded to American pharmacists. No large additional sum of money is needed, and, whatever this may be, contributed by any State association, will give recognition to all pharmacists of the State.

Chairman John F. Hancock, in making his final report, will give proper credit for every subscription received. His deepest interest is in this work, and he has gladly welcomed the opportunity of giving his time so that the cherished hope of completing the monument next year, marking the one hundredth anniversary of the birth of William Procter, Jr., may come to fruition.

The full amount necessary for the completion of the monument had been subscribed, but the requirements of the Commission of Fine Arts necessitated changes in the design and consequent additional cost. The assistance of pharmacists is necessary, however, to encourage Senators and Congressmen to give support to the bill presented by Congressman Linthicum, of Maryland. So that the readers may be informed regarding the measure, which provides only for the erection of the pedestal and base for the monument, it is appended:

"A BILL

"To provide for the erection of a pedestal and base for a monument to William Procter, junior, in the Smithsonian grounds, at Washington, District of Columbia.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the sum of $2000, or so much thereof as may be necessary, is hereby appropriated, out of any money in the Treasury not otherwise appropriated, for the erection in the Smithsonian grounds, in the city of Washington, District of Columbia, under the direction of the Secretary of War, of a pedestal and base for a monument in memory of William Procter, junior.

"In the preparation of the plans and the selection of a site for said monument and the execution of all work in connection therewith the Secretary of War shall form a committee, with whom he may confer, composed of Doctor John F. Hancock, Doctor Charles Caspari, junior, James E. Hancock, and Parker Cook, comprising the William Procter, Junior, Monument Fund Committee of the American Pharmaceutical Association, and two other persons to be designated by the Secretary of War; *Provided, however,* That the decision of the Secretary of War shall be final in all matters connected with this work; *Provided further,* That the said monument, pedestal, and base shall not be erected until the design and site selected therefor shall have been approved by the Commission of Fine Arts; *And provided further,* That the money herein appropriated shall be drawn from the Treasury and disbursed as needed, in the progress of the work, by the Secretary of War or his duly appointed representative." E. G. E.

COÖPERATION IN AND FOR PHARMACY.

SAVE only here and there a striking example to the contrary, less consideration is given to the departments of pharmacy by universities than to other branches of the institution engaged in qualifying students for active professional or business life. A corresponding dereliction obtains in sustaining schools not attached to universities.

There is a zealous legislative activity displayed in fixing requirements for the conduct of the pharmacists' business, regulating their sales, and providing measures intended to protect the public.

The latter statements point out the deep concern for proper protection of the public and the other an apathy relative to duties equally as serious; namely, preparing those into whose charge the sale and dispensing of drugs are assigned.

Coupled with this there prevails a certain degree of indifference on the part of pharmacists, manufacturers, and dealers, who are financially able to provide endowments and who give to other worthy objects, but no more important in so far as their own interests are concerned.

It is probable that the somewhat neutral attitude exhibited by pharmacists in matters that deeply affect their welfare has influenced the mind of the public and the motives of legislators. The statement might be modified by saying that pharmacists are not sufficiently aggressive or persistent in their demands, but we are inclined to believe that greater enthusiasm for their vocation and closer

coöperation between the votaries would bring about a change for the better. It resolves itself into this: that those are helped who help themselves.

We would ridicule the attempt of twelve men, one after another, shifting a weight requiring the combined power of all, but very frequently undertakings are attempted in very much that way.

There are comparatively few pharmacists who really encourage a school of pharmacy; visitations are seldom occurrences. Possibly the teachers of these schools are just as derelict in coöperating with the pharmacists of their respective communities. We are all too deeply absorbed in individual pursuit, although knowing very well that the progress we wish for requires coördinated action.

The potential work consummated by the American Pharmaceutical Association was largely possible because of the generosity of some of the members in giving of their money and time so that many might be benefited. Their spirit of altruism should stimulate men of means to follow their excellent precepts by encouraging, in one way or another, associations and institutions engaged in the promotion of pharmacy.

In this invitation we are not unmindful of the many contributions that have been made in the past, but solicitous for a continued and enlivened interest so that in this progressive age pharmacy may keep a forward pace.

Our energies cannot all be similarly directed in behalf of the Association nor for pharmacy in general, neither would results redound to the greatest advantage. The one who is influential in enlarging the scope or numerical strength of the Association has performed an essential and very valuable service. E. G. E.

INCONSISTENCIES IN LEGISLATION.

PHARMACISTS are more or less acquainted with procedures in legislative bodies and do not wonder that laws affecting their business are imperfect. In addition thereto we have the peculiar views of the public anent drugs which modulate regulative measures of an order entirely different from those provided for other activities.

It is not easy to understand just how an intelligent person can expect safe and satisfactory legislation to be enacted during the continuous uproar of legislative assemblies. In a business office, when problems are discussed, there are order and quiet counsel; every proposition is analyzed before final action is taken.

Unfortunately those best informed, who have given propositions they desire to bring before the legislative bodies careful study, are charged with selfish motives, while others who are influenced by sympathy or impressed by an experience are given a hearing without thoroughly considering the facts underlying their presentations.

Regulations must be provided for the conduct of the drug business, but, after all, the moral obligations of honest men insure greater safety to the public than fixed and fast rules. There are some glaring and unfortunate examples of law-

breaking by druggists, but outside of these there is a general strict obedience. Still, advantages are sought for others in professional lines who are no more entitled to partial consideration. Even with all the opportunities of technical misinterpretation and the many more transactions that present possibilities for errors, there are comparatively few infractions of the Harrison law. Some of these have been traceable to over-persuasion by those who are likewise transgressors, but the law privileges them with discretionary powers not granted to pharmacists.

A peculiar attitude of the public in drug legislation is disclosed in poison laws, and in these provisions the concurrent assistance of druggists is sometimes very pronounced. In a record by S. W. Lambert and H. S. Patterson of the suicides in New York City by poisoning during five years, and numbering 2216 cases, Paris green and arsenic were taken by 48, phenol by 154, opium and morphine by 29, mercuric chloride by 104, illuminating gas by 1554, other poisons 237. Thus it will be seen that the druggists supplied only a comparatively limited number with the chosen means for ending their lives, and without considering the list of suicides by other routes, such as fire-arms, rope, etc.

Sensational newspaper accounts of suicides nearly always induce others to employ the same method so vividly reported. Should this be a poison procured in a drug store, then the thought for sale regulations is at once advanced, but not so if purchased in a grocery or paint store. The inconsistency is striking, for certainly the druggist knows the character of the poison, while to the paint dealer the same chemical is only a pigment. There may be more protection in selling poisons by the pound than by the ounce, but still it presents a rather unique view or involves a distinction without a difference.

When legislators are discouraged relative to opportunities for bills that will evidence their activity to their constituents they turn to the drug business, the complexity of which offers them every encouragement for the exploitation of their zeal. This resourcefulness has developed to such an extent that few sales in a drug store are possible without reference to laws bearing on proper legal transfer of the article called for.

When the stamp tax was enacted, every other business had the opportunity of shifting the burden on the consumer; not so with the druggist. Fortunately there is an awakening to the injustice of this tax, and some congressmen are openly expressing their disfavor, so that there is a probability of repealing this tax. Speaker Champ Clark is among those opposed to the present act, which, while it burdens the taxpayer, the income therefrom is practically absorbed by the expenses of enforcement. He has expressed a purpose to go on the floor of the House if necessary in opposition to the measure, so relief seems probable, if not assured. The assurance argues for activity on the part of associations and individuals in bringing about a realization, which means the saving of many dollars each year for every druggist, a very large sum in the aggregate.

Again the oft-repeated dictum, let the influence of every member be directed to increase the numerical strength of our Association, whereby its opportunities for continued and better service will be promoted. E. G. E.

MOBILIZING THE INDUSTRIES.

EDWARD N. HURLEY, vice-chairman of the Federal Trade Commission, in addressing the Rubber Club of America last month urged manufacturers to standardize their methods and processes and mobilize the American industries.

Business men are now advised by the Federal Trade Commission to form trade organizations and work together. This is quite a different attitude from that which has obtained, for until recently American manufacturers were hardly safe from prosecution if they even talked to each other, let alone to be on friendly terms.

If Congress will encourage business or give the industries a rest from legislative interference there is hope for their development. Conditions have really improved; there is evident a greater confidence since the courts have interpreted the laws against the restraint of trade, whereby business men have a more definite understanding of what they may do and cannot do.

The Federal Trade Commission in a ruling has held that all manufacturers engaged in interstate commerce, all jobbers and wholesalers so engaged are subject to the provisions of the Clayton Act, which does not prohibit manufacturers from establishing exclusive sale agencies in certain territory and selling their product therein only through such agencies. However, the Commission has not decided whether a refusal to sell under any circumstances would be in violation of the act.

The decisions rendered by the Commission are expressions of opinion only, but may be regarded as precedents in so far as they are applicable in proceedings before the Commission. They are intended for information of business men engaged in interstate commerce. E. G. E.

THE VALUE OF LIFE IS RELATIVE.

OUR life is largely what we make it. It is much easier to lay the responsibility on some one else, but, after all, we are responsible in a large measure for what we are and our profession is.

It is a good thing for a man to occasionally have a vision of what he really is, of what his business or profession is from a layman's point of view, so that a realization of possibilities may be impressed, so that he can see what he can become, whither his business or profession is drifting.

The value of life depends upon the relation of that life to other lives, and this applies to the individual or his vocation and avocation. We are wonderfully related, and the largeness of our relationship determines the value of our lives.

To make life worth while we must love and serve; our vocation and avocation must be of service to other lives; we cannot get away from the relation of one life to that of another.

JOINT SESSION OF THE SECTIONS ON EDUCATION AND LEGISLATION, CONFERENCE OF PHARMACEUTICAL FACULTIES, AND NATIONAL ASSOCIATION OF BOARDS OF PHARMACY.

MINUTES OF THE PROCEEDINGS HELD IN THE RED ROOM OF THE BELLEVUE HOTEL, SAN FRANCISCO, CALIFORNIA, ON WEDNESDAY, AUGUST 11, 1915, AT 9:30 A.M.

Chairman F. H. Freericks, of the Section on Education and Legislation, in calling the joint session of the Section on Education and Legislation, the Conference of Faculties, and the National Association of Boards of Pharmacy to order, said:

"I might say that in the past few years, to my knowledge, the attention which the Conference of Faculties and the National Association of Boards of Pharmacy merited has possibly not been given it by the Section on Education and Legislation, and we are seeking to make an effort to bring about a greater interest, to show that these two organizations, which are serving such a splendid purpose, are in close relationship with our Association, and that we should be in harmony at all times and work for a common purpose and end.

"We have with us, and it is proper, I think, that the meeting should be presided over by the three presiding officers of these various bodies, but I would consider it a special privilege to have Dr. F. J. Wulling preside over this joint session, and I will therefore ask him to do so."

Dr. F. J. Wulling then, acting as chairman, stated that he was ready to proceed with the regular order of business as outlined on the printed program, and that the first matter to be considered would be the report from Secretary W. J. Teeters, of the Conference of Pharmaceutical Faculties.

Secretary Teeters then read his report. This report was printed in the September number, 1915, p. 1092, except that portion which follows.

At the Sixteenth Annual Meeting of the American Conference of Pharmaceutical Faculties, held at the city of San Francisco on August 6, 1915, action of special interest to the colleges and faculties was taken, as follows:

Several recommendations contained in a report made by Dr. H. H. Rusby, of New York, as chairman of a special committee created at Detroit last year to investigate and report upon the question of teachers' salaries, were made, viz.:

1. That it is neither practical nor desirable to advise that the Conference make any schedule of salaries, either minimum or maximum, at the present time.

2. That the dean should receive a salary for that office aside from and in addition to what he may receive for his teaching position.

3. (*a*) That the salary of an associate professor shall be two-thirds that of a professor.

(*b*) That the salary of an assistant professor shall be four-fifths that of an associate professor.

(*c*) That the salary of an instructor shall be three-fourths that of an assistant professor.

(*d*) That the salary of an assistant shall be half of an instructor.

(*e*) That each of these salaries be fixed on an advancing scale, from a minimum to a maximum, and that the minimum for one grade be equal to the maximum of the grade next lower, three years being required for the maximum to be attained; and that the salary should pertain to the position, and not the man.

The last clause (*e*) of the third recommendation was amended to the effect that an increase of salary shall go with every promotion in rank, without having to wait for a year for such increase.

The recommendations as thus amended were then adopted as the recommendations of the Conference.

The question submitted to a special committee last year as to whether the regular two-year college-of-pharmacy course should be extended to three years in 1920 was reported upon adversely, as not warranted by present conditions, in a report submitted by Chairman H. M. Whelpley, of St. Louis.

The Conference adopted a motion to refer to the secretary and Executive Committee, with power to act after conference with the Publication Committee of the American Pharmaceutical Association, a proposition made to consider the publication of the proceedings of the Conference in the Journal of the American Pharmaceutical Association.

President Caswell A. Mayo moved that the report be referred to the Committee on Publication, stating that it was his understanding that the report did not require any other action from the body; that this was a joint session of the American Pharmaceutical Association, and that these proceedings constituted a part of the general proceedings, which motion was seconded.

Chairman Wulling then put the motion, and Mr. Mayo stated that the publishing of the report was discretionary with the American Pharmaceutical Association; that the joint session could hardly direct the Association to do it; but that the action taken would indicate the wishes of the joint session. Whereupon the motion was put, regularly seconded, and declared carried.

Chairman Wulling then called for a report from the National Association of Boards of Pharmacy by Mr. H. C. Christensen, secretary.

Mr. Christensen then presented his report. (This was printed in September number, 1915, pp. 1087–1091.)

Secretary Christensen stated that the joint session considered the recommendation from the Conference with reference to reconsidering the proposition of continuing to hold the meetings previous to that of the American Pharmaceutical Association, but that the best they could do now was to have the matter referred to the Executive Committee. Secretary Christensen said that the officers of his organization would prefer to hold the meetings prior to those of the American Pharmaceutical Association, but that the majority of the members held a different view.

President Caswell A. Mayo moved that the report take the same course as the previous report—be referred to the Committee on Publication of the American Pharmaceutical Association—which motion was seconded.

Dr. J. H. Beal called attention to the fact that the definition proposed in the report for proprietary medicines was materially different from the definitions accepted by the supreme courts of the various States; that it was also at variance with the definition adopted by the Conference on Pharmacy and Medicine of the American Medical Association, and materially different from the definition adopted by the Commission on Proprietary Medicine adopted by the American Pharmaceutical Association; that, with the permission of the Section, he desired to read the definition by the Commission.

"In its widest sense, a proprietary medicine is any drug, chemical, or preparation, whether simple or compound, intended or recommended for the cure, treatment, or prevention of disease, either of man or of lower animals, the exclusive right to the manufacture of which is assumed or claimed by some particular firm

or individual, or which is protected against free competition as to name, character of product, competition, or process of manufacture by secrecy, patent, copyright, trade-mark, or in any other manner."

The custom of taking out patents upon medicinal mixtures ceased, but the custom of selling them in packages of distinctive form and size continued, and so they have continued to bear the same designation as formerly. The term is now wholly inappropriate, but is apparently so firmly fixed in usage that it seems likely to persist as long as the class of remedies to which it is habitually applied continues in existence.

The distinction between the two classes of proprietaries finally approved by the Commission is expressed in the following definitions:

Proprietary Medicines Exploited in Accordance with the Requirements of Medical Ethics, or so-called "Ethical Proprietaries": Proprietary medicines, the active ingredients of which, with their proportions, are stated on the label or otherwise published, and which are not advertised to the general public, either through the public press, by accompanying circulars or in any other manner, and not accompanied by printed matter calculated to encourage their use by the laity without the advice of a physician.

"Proprietary Remedies Advertised Directly to the Public," or so-called "Patent Medicines": Proprietary medicines, whether of secret or open formula, which are advertised directly to the general public through newspapers, by circulars or in any other manner, and the packages of which are accompanied by printed matter specifying the affections, symptoms, or purposes for which the remedies are recommended, and directions for their use.*

Chairman Wulling then suggested that possibly the Section ought to dispose of the motion first, stating that it might be well and entirely appropriate for Dr. Beal to make a motion later offering the definition, which he had read, to the consideration of the boards, and that if there was no objection he would put the motion for the disposition of the report and that thereafter it might be discussed.

On vote the motion was declared carried.

President Mayo said that he thought the only point that could be brought up, it seemed to him, in connection with the matter, would be to direct the attention of the members to the difference in the point of view of the Commission and the boards, and he therefore moved that, in the event the Committee on Publication should publish the report, it be requested to direct attention to the fact that the Association had accepted the definition of the Commission. This was seconded and carried by vote.

Dr. Beal then read the following from the report of Mr. Christensen:

"That the term 'patent' or proprietary preparation or remedy be defined as one the name of which does not appear in the United States Pharmacopœia or National Formulary or the complete formula of which is not printed on the label of the container."

Dr. Beal stated that the committee which had presented the report made no claim for the originality of the definition; that it was copied, he believed, from the law either pertaining to pharmacy or the Pure Food and Drug Commission of Louisiana and also the Canadian Law.

* The terms "ethical" and "non-ethical" as employed in this report are intended merely to distinguish between remedies exploited in accordance with the rules of medical ethics regarding the advertising of medical agents, and those advertised to the general public in contravention of such rules. The terms have been used for want of better, and are not to be understood as implying any idea of relative merit.

President Caswell A. Mayo remarked that the phraseology indicated that it had probably been based upon the report of the British Parliamentary Commission, and that it was used as a basis of a definition adopted by the Board of Health of the city of New York. This was almost identical with the definition read by Dr. Beal, only that they were termed "proprietary medicine, patent, proprietary medicine," and that it provided for the registration of the formula. President Mayo thought a part of it was based on that; that the point Dr. Beal wanted to bring out, and one which he thought desirable, was the difference between the two, so that there would be no misapprehension on the part of the casual reader.

Chairman Wulling said that where there were two definitions by two representatives of two different organizations a little confusion might arise, and it was very desirable to harmonize the definitions, but that it would be a matter for the Boards of Pharmacy to take up.

Secretary Christensen said that it seemed to him that the discrepancy only showed more plainly the advisability of the two sections getting together more closely, not only regarding legislation, but on other matters; that the proposed committee on legislation could find some way out of the difficulty, even though the resolution had been adopted, and that it might be the means of enabling the joint session to avoid like disagreements in the future.

Dr. Beal then stated that his object in bringing the subject up now was to avoid the apparent inconsistency of the two associations, presenting the matter in different sections, adopting the two different definitions for the same thing; that he was sure the definitions which had been submitted from the Boards of Pharmacy would not stand the test of the courts; that secrecy had nothing to do with proprietorship; that he believed it would be advisable that some joint committee be arranged for, to harmonize the two definitions.

The Chair suggested that there was a joint committee to whom this matter could be referred.

Dr. Beal moved that the two definitions be referred to the Joint Committee.

The motion was duly seconded, and after voting the same was declared carried.

The Chair then stated that he had been asked by two different persons whether he would request the Secretary of the Boards to explain briefly what the procedure for reciprocal registration was.

Secretary Christensen then read the following from the Constitution and By-Laws of the National Association of Boards of Pharmacy:

ARTICLE II.

Any pharmacists who are registered by examination in any State which is an active member of this Association may secure registration in any other State by sending the fee of $5 to the Secretary of this Association and applying for the necessary blanks, which will indicate that this fee has been paid, and filing said application with the Secretary of the State Board in which they desire registration, which has been certified to by themselves and by the Secretary and President of the Board where they first obtained registration. Said applications must indicate the following:

(*a*) They shall be twenty-one years of age.

(*b*) That they shall have had at least a grammar school education or its equivalent.

(*c*) That they must present evidence of good moral character from two registered pharmacists in the State from which they come.

(*d*) That they shall have had at least four years' experience in a pharmacy where physicians' prescriptions are compounded and dispensed under the direct

personal supervision of a registered pharmacist; *Provided, however,* That graduates of recognized colleges of pharmacy, who have acquired at least two years' actual drug-store experience, as described above, shall be considered as complying with this section; *Provided, further,* That they must have had, prior to their examination and registration in the State from which they apply, the legal experience necessary for applicants for examination and registration in the State to which they apply.

(*e*) That they shall have passed an examination on pharmacy, chemistry, materia medica, and practical work, and have made not less than 75 percent general average and not less than 60 percent on any one branch.

(*f*) That the applicants must have practised their profession at least one year prior to making their application for reciprocity and subsequent to their examination by the board from which they come.

(*g*) That they shall certify that they expect to reside in the State from which they are asking reciprocal exchange.

(*h*) That they shall have paid a fee of $5 to the Secretary of the National Association of Boards of Pharmacy.

(*i*) That they must be in good standing in the State in which they were originally examined and granted a certificate.

In the first place, an applicant for reciprocal registration had to be registered by examination; that he must have received in that examination an average of not less than 75 or not less than 60 in any one branch or subject on which he was examined; that the minimum number of subjects on which he must have been examined, which examination included the subjects of pharmacy, chemistry, materia medica, and practical work; that he must have been twenty-one years of age when he passed that examination; must have had at least a grammar school education or equivalent. The latter phase would probably be changed now; that he had to furnish two affidavits of good moral character and he must have (the applicant) practised his profession at least one year since being registered by examination either in the State in which he was examined or in some other State, some States holding that the applicant must have practised in the State in which he was registered, other States requiring only that he must have practised a year since registration. Also that they shall have had at least four years' experience in a pharmacy where physicians' prescriptions are compounded and dispensed, under the direct supervision of a registered pharmacist; *Provided, however,* That graduates of a recognized college of pharmacy who have had at least two years' druggist experience, as stated above, prior to their examination and registration from the State in which they filed the application.

That was done for the reason that some States allow a full two years, or a two years' course in a school of pharmacy, while other States grant only the actual time put in at the school.

Now, as to the direct procedure: When an applicant wants to make application, the by-laws provide that he must remit a fee of $5 to the secretary for an application blank with instructions for proceeding.

When I receive that fee I send them an application blank with a form letter which I have, giving instructions for proceeding; he sends that application to the secretary of the board in the State in which he was examined for certification of registration and grades; then it goes with the fee which was required in the State in which he wishes to be registered. That, as a rule, is the same as they require for registration by examination, and it therefore varies from $5 to $15.

There are some States that require only $5 (two or three) for taking an exam-

ination and then require $25 for a person coming in by reciprocity, but we are trying to discourage that. I believe that there are only two States left.

Dr. Whelpley: I would like to ask Chairman Christensen this question: Is there any way to prevent a state board, recognizing that certificate of registration, from licensing an applicant without going through this process?

Secretary Christensen: There has not been up to this time. Resolutions were passed at this meeting making it compulsory for them to make application on the regular blank or regular form.

The Chairman: We are particularly fortunate in the next department of our program, since the paper to be read covers an exceedingly interesting phase, two very interesting subjects, and they have been prepared by three gentlemen of great pharmaceutical eminence.

We are going to ask Professor Remington to read his paper on "Coöperation a Necessity." Why should there not be activity between the medical and pharmaceutical professions in this direction?

(The paper by Professor Remington was published in the October number of the Journal, pp. 1237–1240.)

The Chairman: You have heard this paper; what do you desire to do with it?

Professor J. U. Lloyd: Mr. President, it always does me good to hear Professor Remington speak or read a paper. And when he reads a paper such as this, that conforms so to the ideals I have been taught, it brings back to me a courage that I will confess is sometimes almost departed.

I wish to personally thank Professor Remington for the privilege he has given me of hearing this paper. It would have well repaid me to come to San Francisco to hear Professor Remington dwell upon the ethics of pharmacy that came to us in the olden times when pharmacy was somewhat different from what it is now; but the ethics still stand as they stood then. And coöperation is merely *justice*. It is *right*. The druggist has his right and so has the pharmacist, and together they are working for the people. That is the object of pharmacy and medicine.

The Chairman: This paper is before you; what is your pleasure?

Mr. Nitardy: I move it be received and published.

The Chairman: It has been moved and seconded that this paper be published; any remarks on the motion?

Mr. Freericks: Mr. Chairman, it seems to me that Professor Remington at the very close of his paper brings out a point that should have our more mature consideration, and that is the suggestion that there might be a committee appointed, of physicians and pharmacists, who would give closer attention to the differences that exist at the present time and have existed.

Now, that is a most important suggestion, and I think it contains within it the very crux of the difficulties that have existed for years past.

There would be nothing that would be so helpful as this coming together of people who are of different opinion. And if it were possible for our Association in some manner to appoint a committee, and if it were possible for our Association to know that a similar committee would be appointed by the American Medical Association to act upon and give consideration to the differences as we find them to-day, I believe that pharmacy and medicine would be splendidly served.

I do hope that the suggestion made by Professor Remington for such a committee will not be passed over lightly. It is something indeed that will mean a great deal to pharmacy.

The Chairman: Professor Remington has placed before us the situation. Mr. Freericks voices the sentiment of the Chair. We are only voicing the senti-

ments. The paper will be discussed like all other papers, and the recommendations they suggest ought to be acted on.

The motion having been regularly made and duly seconded, and the question called for, was declared carried.

The Chairman: Now the paper is open for discussion.

Mr. Freericks has already contributed a very apt contribution. I think somebody on the floor should initiate a motion to appoint a committee to coöperate with a similar committee with the American Medical Association. I wonder if there is any objection?

While Mr. Freericks is looking up the matter of committees, possibly you will allow me to say that we have discussed this matter for many years in Minnesota, and have done some fruitful work by getting together with the physicians.

The physicians have for a number of years, have a number of times, in fact, been the guests across the table and across the board, and matters of mutual interest were discussed; and the physicians have reciprocated a number of times and invited the pharmacists; in fact, we covered the State; we had these joint meetings between pharmacists and physicians at Alexandria, Duluth, and practically all the larger centres of population in the State, and as a result there is a very excellent and harmonious communication between the two callings in Minnesota.

It can be done anywhere if some one will initiate the movement; much propaganda work was done at those meetings, and the work of the pharmacists was always endorsed by the physicians. They said, "We want you to tell us what you can do for us and how you can help us."

Mr. Charles Gietner: A movement of that kind was inaugurated about a year ago in St. Louis, which the Alumni Association controlled. They had a "get-together" meeting where many physicians were present and we assembled three hundred people, and the propaganda was thoroughly gone into and a lot of literature was distributed. The St. Louis Medical Society took quite a great deal of interest in it, and I think that meeting will be duplicated again this coming November. That is an effort along the same line as outlined here.

Dr. W. C. Alpers: A movement of that kind has existed in Cleveland. There is, in Cleveland, the Cleveland Medical Association, in which they have a pharmaceutical section; the pharmacists all over the city are invited to come there and become members of that section.

Now, so far as that goes, it has done good work; that is to say, good work for those who attend. At the last meeting there were present 37 physicians and 7 pharmacists. That is the great trouble—to get them out—and the question was put to me at that time, why do the pharmacists not attend such meetings more; why can they not see it to their advantage as the physicians do, to have these joint meetings?

Of course, that may be a different case from the two that have been cited. But if we consider all of them, they seem to be more or less local; that is to say, the work that has been done in Minnesota and St. Louis and other cities is local work. As I understand this motion, it is to be a national affair. If we appoint a committee, it must be a committee that covers the whole ground, the whole country, and the American Medical Association should have a similar committee. Whether such a joint committee could do such work or not is something that only the future will tell. I believe it would be very serviceable; but here again we come to the point that I emphasized at another place during this convention, namely, the lack of centralization of pharmacy, the lack of pharmaceutical centralization, that has authority to speak for the pharmacy of the whole country.

Of course, it is a difficult question in itself, but it is brought up here. We will naturally be asked, "Well, whom do you represent; how many do you represent?" And we must answer, "But a very few, but of those few we speak with authority." And naturally that point, the question of central authority, comes up, and in every one of our debates it is a knotty problem; centralization has a great deal to do with this work, in having it done uniformly all over the country.

That this committee will be of service is without question. I heartily support the movement and believe some good will come of it.

Mr. Freericks: In line with what Dr. Alpers has said, it occurs to me that, while there is a lack of centralization, there is no question of the American Pharmaceutical Association being representative of pharmacy; I think that is well recognized by the medical men of the country—that *medicine* generally recognizes that; and while we may not represent numerically the pharmacists of the country, by including all or the majority, yet I think our Association speaks for them, and is recognized as speaking for them. On that account a committee, if it were constituted of men who have the respect of medical men in the various localities, and have the respect of medical men nationally, will have that attention that the subject itself deserves, and will bring about a spirited coöperation that will lead to much, in my judgment. It all depends on how the subject is opened up.

What we quite agree on is, that all the efforts, all that have been made in the past, have been local efforts. They do some good, but, as all local efforts, they last for a year or two years, there is a certain enthusiasm, and it wanes, and the effort is altogether lost. There is no general effort for bringing together medical and pharmaceutical men throughout the country; having them agree upon methods for cementing the relationship between the two will change the situation from what it is to-day. Matters of that kind cannot be taken up locally. They must be handled through the national bodies, and, through these, they must reach the local bodies.

I am quite satisfied that if we can take this matter up as suggested by Professor Remington and really make it appear to the American Medical Association that we aim to bring about a better understanding, that we are seeking that which will be for the benefit of the public as well as of medicine and pharmacy, then we may look for a like spirit on their part.

I move you, Mr. Chairman, that a committee of five be appointed of this Association; that said committee be authorized, be empowered, to submit to the American Medical Association a request for coöperation between the two bodies along the lines pointed out, and ask them to appoint a similar committee for studying matters of common interest.

Dr. W. C. Alpers: I second the motion.

The Chairman: You have heard the motion and it has received a second; are there any remarks?

There being none, the question was called for and carried by a unanimous vote.

The Chairman: That committee ought to be appointed, your present Chairman takes it, by the incoming president; the committee will work with him, and unless there is objection that will be the ruling.

Professor Remington: I wanted to suggest: should this not properly be a committee of the American Pharmaceutical Association; should it not go up to the general session, inasmuch as it is going to speak for the American Pharmaceutical Association, and not for the Section?

President Caswell A. Mayo: I offer a substitute by amending the phraseology,

to make it conform with our usual method of procedure; that this Section recommend to the general session that a committee be appointed.

Mr. Freericks: I will adopt the suggestion as made by President Mayo.

Chairman Wulling: Do we need to take any action on the amendment?

Dr. Anderson: It has always been my understanding that all resolutions affecting the policy of the American Pharmaceutical Association are referred to the general session for approval, being simply a recommendation of the Section.

The Chairman: It is merely a matter of course, then. Is there any further discussion on the paper? Would Professor Remington like to close the discussion?

Professor Remington: I hardly think it is necessary. The idea seems to have met with general approval, and my only concern now is that it will be effective. I do not wish to put forth effort and have it die from inattention. If the Association will appoint a committee, I think it will be able to do something, particularly, Mr. Chairman, because the American Medical Association has done yeoman service in the past and is doing it now, and I think the American Medical Association will be glad to get such a resolution from the American Pharmaceutical Association inviting coöperation.

And another thing: I think now is the time to strike. I think it is the "psychological moment."

The Chairman: Before proceeding with the program, Dr. Whelpley has an announcement that he desires to make.

Dr. Whelpley: I have here the original constitution and by-laws of the American Pharmaceutical Association with signatures dating back to the first president. It has been customary each year to ask members in attendance who have not previously placed their names on this roll to do so.

Chairman Wulling: The next paper is by Dr. W. C. Alpers on "Qualification Requirements for Teachers in Colleges of Pharmacy."

(The paper was printed in the November number, 1915, pp. 1330–1332.)

The Chairman: You have heard this very timely paper; what shall we do with it?

President Caswell A. Mayo: I move that the paper be received and referred to the Publication Committee.

Mr. F. H. Freericks: I second that motion, Mr. Chairman, and in so doing I want to accept the opportunity of thanking Dr. Alpers for the most interesting way in which he has brought this question before us. It is, undoubtedly, a question to-day that either finds or should find the consideration of all teachers in pharmacy schools.

Now the motion has been duly seconded. Are there any remarks on the motion? What is your pleasure?

The vote was called for and decided in favor of the motion.

The Chairman: Now the paper is regularly before us.

Mr. Freericks: Mr. Chairman, if this matter is brought more closely to the attention of our various colleges it will serve a good purpose. As Dr. Alpers so well points out, we have requirements and we have restrictions for the students, but we seem to have none for the colleges and teaching staffs, and one is quite as important as the other. And, in line with the thoughts conveyed to us in this paper, it seems to me we should have the paper of Dr. Alpers brought more directly to the attention of the various colleges in the country.

The Chairman: If I had gained the floor before the previous speaker I should have attempted to say what he has expressed, but, of course, not so well as has

he; so I will merely follow by making a motion that the Editor of the Journal be instructed to have one hundred reprints of this paper made when it is published and a copy sent to each teaching pharmaceutical institution in the country.

Dr. Whelpley: I commend all that Mr. Freericks said, and I feel the author has been particularly happy in expressing himself in this paper, so it should be sent to all who are in any way interested in pharmaceutical instruction.

Mr. Freericks: Will Dr. Whelpley allow that I make the suggestion that there be added the State Boards of Pharmacy as well?

Dr. Whelpley: Yes, make it two hundred copies, and that a copy be sent to each teaching pharmaceutical institution and to the secretary of each board of pharmacy.

I might add, while on the floor, Mr. Chairman, that I feel the American Pharmaceutical Association can do a great deal of work along this line by giving more publicity to the papers brought before it.

The Chairman: Does it receive a second? First, Dr. Whelpley, let me ask, does it contemplate direct instructions to the Committee on Publication? Would it not go to Council first?

Dr. Whelpley: All items of expense must be approved by the Council.

The motion having been regularly made and duly seconded, and the question called for, the same was declared carried after voting.

The Chairman: The Chairman of the Executive Committee of the Faculties states that some of the matters referred to by the reader of the paper are already taken cognizance of by the Conference. Will you state in what way, Dr. Koch?

Dr. Koch: While it is not pertinent here, one of the statements made by Mr. Freericks was to the effect that colleges of pharmacy were multiplying or increasing. I do not believe this is the case; I believe we have fewer colleges of pharmacy at the present time than we had years ago.

Mr. Freericks: I believe the point raised by Professor Koch is quite well taken, but I think I have had opportunity to observe that such new institutions are about to be created, and that there may be institutions of the kind that to-day are not recognized as colleges of pharmacy, but which, because of changes in the laws of their State, are being rearranged to at least satisfy the letter of the law by becoming so-called colleges of pharmacy.

The Chairman: I wanted the Chairman of the Faculties to say that, in considering applications from the colleges, the personnel of the faculty is inquired into quite fully, is it not?

Dr. Koch: Yes.

The Chairman: I wanted that fact brought out.

Now we have the additional great privilege of listening to a gentleman who honors us by his presence. I need not speak of Professor Lloyd to anybody.

He is not very much my senior in years, but he presumes to speak on "Pharmaceutical Apprenticeship Fifty Years Ago." I am not going to compliment the author on the very efficient way he has of remaining with us; I know that is in all your hearts; we should compliment him for the wonderful way he has of remaining with us and absorbing our youth and making it his own.

Professor Lloyd: Were it not for this young man (pointing to Mr. Freericks) I would not presume to bring to you what I hold in my hand now (referring to paper). If I mistake not, it was Longfellow who wrote

In thy journey look not backward.

And I should certainly not have presumed to have looked backward and attempted to systematize what I hold in my hands, had it not been for the personal request of my good friend Freericks.

(The paper by Professor J. U. Lloyd was printed in the November number of 1915, pp. 1333–1342.)

The Chairman: You have heard this admirable and interesting paper by Professor Lloyd; it is now before you.

Dr. H. P. Hynson: I move that the paper be referred for publication with the favorable endorsement of the Joint Section, and with the thanks of this body, representing as it does the Association; that thanks be extended to Professor Lloyd for this paper, which I believe will go down as one of the most interesting contributions that has been made to American pharmacy.

Dr. Alpers: In seconding that motion I desire to add only a few words. It is my firm conviction that if I had seen or heard nothing else but this one paper, I would have felt that my journey from Cleveland to San Francisco was largely rewarded. I myself feel very happy that I have been here and heard this wonderful paper.

The motion having been regularly made and duly seconded, and the question called for, was declared unanimously carried.

Professor H. P. Hynson: As I look around I realize that probably I am the only one here who can thoroughly be in sympathy with Professor Lloyd in his travels through pharmacy, and appreciate the troubles he has had in equipping himself for pharmacy. I will not take time to recite my own experiences. Some day, possibly, if the Association will permit me, I will set forth, as you have, Professor Lloyd, some of my own experiences.

Dr. Blake: Mr. Chairman, as one of the younger generation of pharmacists, I would like to thank Porfessor Lloyd.

Mr. F. H. Freericks: If I were a pharmacist actually engaged in the business, I would want that paper in order to give it to every young man who engaged with me, and I really hope that those who truly love pharmacy will not miss the opportunity of having this splendid story appear in book form.

This is merely a thought on my part; but I do not believe there is anything that would be more helpful for a young man entering pharmacy, that would make him more appreciative of his duties as an apprentice to-day, and it would most certainly tend to instill in him a little more love for the calling that he will pursue, and will enable him to follow somewhat in the footsteps of Professor Lloyd.

The Chairman: An excellent suggestion. I shall undertake to give the students in the University of Minnesota an opportunity to receive the benefits of what Professor Lloyd has told us.

Dr. W. C. Anderson: In accepting the remarks of Mr. Freericks in reference to bringing this before the young pharmacists—the apprentice—and particularly those entering the college, may I say that to-day there are boys, as we all know, who have no idea of the work that engaged the early apprentices. I also believe that in presenting this matter some arrangement should be made whereby the work of Professor Lloyd, the means by which he has progressed, the manner in which he has grown into pharmacy, should be adequately set forth.

The manner in which he has grown into pharmacy is a science; the manner in which he has grown into the hearts and affections of all men interested in pharmacy should, and could, be brought to the attention of these young men, showing that even a humble beginning with the right principles, with insight of purpose, and with perseverance such as Professor Lloyd has had, what results

may be attained, and what such a man with such ideals may obtain in the hearts of the pharmacists of this country.

The Chairman: It is a very admirable idea, and I move you that the Editor of the Journal provide extra reprints of the article.

The motion having been regularly made and duly seconded, the vote was called for and unanimously carried.

Professor Lloyd: I want to say to you, my young friends, that you do me too much honor. I know of what I speak. But listen: the one to whom the most credit should be given, the one to whom everything is due—the *ones* rather—are father and mother.

We know that our father and mother always had those ideals; and we naturally had the same ideals; mother and father always instilled them into us boys. They taught us that we lived not in the world for ourselves but for others, and that whatever we did, however little we might do, whatever it might be, we should try to serve the good of the community of which we were a part, whether it be local or large; and as opportunities came we should increase that which we could do for others. It has been the ideal which has guided me and my brothers.

Chairman Wulling: In closing this part of the program I desire especially to thank the last three speakers who have given us such excellent and valuable papers. I will now ask the Chairman of the Education and Legislation Section, Mr. Freericks, to take charge of the meeting.

Professor H. P. Hynson: I move that the three presidents of the bodies represented in this joint session be requested to act jointly and to constitute a committee for considering the relationship of the National Association of Boards of Pharmacy and American Conference of Pharmaceutical Faculties to the American Pharmaceutical Association and present the subject for consideration at the next annual meeting of the three organizations.

An informal discussion followed, and, after a second to Professor Hynson's motion, a vote was called for, resulting in a favorable expression.

Chairman Freericks: This is, as I understand it now, the conclusion of the program for the joint session, and a motion to adjourn will be in order.

The motion was made and seconded, and, after a vote, Chairman Freericks declared the meeting adjourned.

The true rule, in determining to embrace or reject anything, is not whether it have any evil in it, but whether it have more of evil than of good. There are few things wholly evil or wholly good. Almost everything, especially of government policy, is an inseparable compound of the two, so that our best judgment of the preponderance between them is continually demanded.—*Abraham Lincoln.*

HOW CAN THE COLLEGES BETTER EQUIP THEIR STUDENTS FOR BUSINESS.*

BY HENRY P. HYNSON.

It is not because I have anything new or unusual to present upon this subject that I am led to offer this paper; it is prepared simply to comply with the polite request of the chairman, Mr. Thiesing, hoping it will, at least, help to fill up his program.

The era is upon us, I believe, when only experts and severely and especially trained leaders should presume to take up the time of conventions; so very valuable, so very helpful, may these "gathering together" occasions be made. More than ever before do I feel the responsibility resting upon those who undertake to instruct their fellows.

Were I to directly and concisely answer the question that has been given me by the Chairman—the caption of my paper—I would submit the following:

> "By equipping them to efficiently render the actual service they will be called upon to render humanity through their customers, while securing for themselves a reasonable competency with protection against unproductive old age."

Students certainly will not be encouraged to become equipped for their life's work if the colleges, through their faculties, deride, disparage, or condemn the business into which the students are about to enter. It will not do to tell them of the "departed glories" of pharmacy and present the "degradations" into which it has descended.

It may be fearlessly concluded that those who discredit any honest vocation are persons who are not thoroughly—through and through—acquainted with the worth and possibilities of that vocation. It follows, then, that those who would better equip students for "business" should themselves become better acquainted with the real scope of business, with the modern effective methods of business, and with the real science of business.

To better equip students for "business," the colleges must actually know the business; knowing well any small part of it will not do. It is pathetic to contemplate the narrow specialist in pharmacy, holding the idea that his attainments make up the sum-total of pharmaceutical excellence. A fairly good pharmaceutic "Jack of all trades" may have many highly self-enjoyed half hours made possible by the absence of touch with actualities by an arrogant specialist. "There is glory enough for all." Yes, but the glory of all is so wonderfully much more than the glory of any one particular phase of pharmacy. The whole is so broad and so comprehensive as to make it almost beyond comprehension.

All this is an effort to make it appear that the colleges should, in the beginning, encourage and stimulate students to become interested in the more practical features of pharmaceutical practice, and that they should strive to give their matriculants a broader training, not in the so-called higher branches, but in those features of drug-store practice with which they will be sure to come in contact. This is the actual and beneficial trend of medical and dental education, especially, and is the essence of the more recently introduced vocational instruction.

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* Read before joint session of the Section on Commercial Interests and the Section on Education and Legislation.

Much confusion has ever existed as to the proper placement of pharmacy. The triangle has been used to illustrate its three distinct sides—professional, trade, and social. But what vocation is there that has not these three distinct phases—knowledge, practice, and living? There is, at present, no reason for discussing whether pharmacy is a profession or a trade, because it has become a fact that neither professional men nor tradesmen are any longer estimated merely by their vocational attachments, but each is creditable or not, as rated by standards of competency and worthiness. The professional man who is now in favor must be scientific and worthy, while a tradesman who is unscientific and unworthy is now not in favor. More and more in the future will the classification of men be by standards of abilities, attainments, and merits, because it is clearly apparent that what were formerly described as distinctly social or moral characteristics are now considered to be essential parts of a person's general make-up and actual necessities to professional or commercial success. Boors are no longer able to win substantial encouragement in any of the needed occupations of mankind.

Following all this fundamental treatment of the subject, a more specific consideration may be interesting. First of all, a better and happier spirit should be instilled into the student's being; the "joy of work" and the "rewards of work" should be presented and re-presented until the seed sown will at last take root and grow in some part, at least, of the student soil. It is well known that the average student body presents very little good soil, and this pointedly brings up our bounden duty in this regard. We will never fully meet our obligations unless the colleges positively refuse to *continue* as students those who cannot be taught, those who will not learn, and those who are not interested. I will not touch upon the much-discussed subject of admission requirements. The question of "certificate" preparedness or unpreparedness is of so little importance, when compared with the actual character of the student, as shown or developed in the class-room or laboratory, that it is scarcely worthy of serious consideration. At the end of the first semester a survey of each freshman should be most carefully made, and *then*, not at the final examination, should it be decided whether or not he is inherently fit to practise pharmacy. The great majority of students are not "better equipped for business" by the colleges, simply because they, themselves, are incapable of taking on the equipment, or are unwilling to do their part to secure it. Just here it may be most truthfully stated that the student receives but little encouragement to better equip himself in modern efficient business methods from either the precept or example of those with whom he has had business associations.

Forgetting for the time the incapable, the indifferent, and the badly-environed student, what can be done with the better class? As just stated, the instillation of the higher, better spirit of working joyfully and looking with confidence for ample and satisfying rewards.

The colleges will never properly equip their graduates for business until they teach them to make the most out of their personalities, their bodies; how to overcome defects, how to keep them healthy and clean, how to dress and groom them; their carriage, their address, their manners. The boy who cannot learn to use his knife and fork properly will never learn to win creditable success in the business world.

The man who can work honorably and profitably take part in business affairs of to-day must speak well and pleasingly, must write well and pleasingly. His success will not depend upon whether he has one, two, three, or four years of high-school work, nor will it come simply because he is a Bachelor of Arts. He must

know how to talk and *know* how to write; with all these abilities the college must see that he is equipped. It will not do to say: "He should have learned such things at home or in the grammar school." The college puts its diploma-stamp on the finished product; is it really "finished"? Many of these homely requirements are often discounted by eminently successful pharmacists because they do not remember that they, themselves, *did not always possess such accomplishments,* but gained them in the hard school of experience.

Æsthetics and ethics, in their broader and more elementary sense, are prominent essentials in business equipment. Business men acquire knowledge of these sciences, they scarcely know how, and use them to great advantage. A differentiation of window displays, of signs, of advertisements will show the application. "He profits most who serves best" is a demonstration of the highest and best ethics applied to business getting. "The Golden Rule" has become a commercial law with many.

The colleges of pharmacy can arrange a commercial course that will more nearly suit the requirements of the pharmacist than does the average course at *business colleges.* It may be that the matriculant *should* have acquired much of this commercial knowledge previous to his entrance; so might he have learned how to talk and write, but he did not do so, and the certificate of a high school guarantees no such attainments. Credits and credit men, commercial agencies, their power and uses, are fantastic and appalling to students of pharmacy. Commonplace commercial law, contracts, insurance, promissory notes, drafts, are all necessary parts of the pharmacist's working machinery. I have learned to call the simplest bookkeeping, which is no more than truthful business records, the student's "bugaboo." Department accounts are startling, and yet it is claimed that a pharmacist may be safely launched upon this very practical world of ours without the least idea of what it all means. What a very small part of banking is the handing to the receiving teller of funds and the distribution of them by making out checks! How pitiable is the young pharmacist who knows no more of the helpfulness of a bank than this! A much more pleasing picture is the young pharmacist who goes to the proper bank official with such a clear statement of his business, and with the pleasing ability to present it, that he is able, on his own endorsement, to secure the loan of sufficient money with which to develop offered opportunities. Contrast the pictures of the unfortunate fire victim without inventory, trying to convince the insurance adjuster of the amount of his loss, with another who knows how much insurance to carry and shows, without hesitation, exactly where the goods were located, what they were and their value.

The wholesaler has repeatedly and persistently shown what the pharmacist most needs to make him a good commercial risk, and is necessarily patronizing in his proffered advice and assistance. What these men of larger experience tell us are the needs of the pharmacist, comprehend many of the things the graduates should know, and when they have been taught these items of drug-store practice and they have been learned, then the colleges have better equipped their students for business.

THE ASSOCIATIONS, THE COLLEGES, AND THE BOARDS.

BY W. H. COUSINS.

Upon these three institutions depend the progress and success of pharmacy. They have for constituents the best and most capable men of the craft. They are the three legs of the tripod on which pharmacy stands. In view of the fact that the calling is dependent upon them for support, counsel, and for the shaping of its destiny, it is necessary that there be maintained the closest of relations between them, and the efforts of each body should be reciprocal. Coöperation is essential for the best interests of every member of the profession. The making of a pharmacist may be likened unto the making of a piece of merchandise, in that the one aim a manufacturer has in view is to produce a product that meets every demand made by the man who buys it. The college of pharmacy represents the manufacturer in whose plant raw material is transformed into a finished product. The boards of pharmacy are nothing more or less than censors, inspectors who pass on the product of the colleges. The state associations being made up of the pharmacists of the country represent the ultimate buyers of the product of the colleges. The state associations made up of the buyers of the product made by the colleges and passed on by the state boards must be satisfied. Though, if the product is not satisfactory, then the schools are not alone to blame because the state board licensed the applicant and placed its O. K. on the product of the college. Thus it at once becomes apparent that a standard of efficiency should be established.

The requirements of this standard should be suggested by the association members who are to pay the salaries of the students we license. They should let us know what they want. They should make their specifications of what a pharmacist should be, plain and easy of understanding. The druggists of this country are the people we must please, because they are the ultimate buyers of our product. A student may pass the college censor, he may pass the state board, but he has not met his most critical examiner until he stands before the man who is to sign his pay-check. There is a great need of a standard of efficiency among the pharmacy boards of the United States.

The requirements of the different state boards are at great variance, and the requirements for graduation in the different pharmacy schools are not the same. Owing to this state of affairs, the term "Registered Pharmacist" may have as many meanings as the word "professor," from which we understand that the bearer of the title may be a famous teacher of science, a pianist in a shady restaurant, or the owner of a snake show. Under present conditions, "Registered Pharmacist" is a very vague term. There are too many standards and too little uniformity in the requirements of both the schools and the boards.

If a druggist ordered boric acid and was unable to get two cartons that were the same, he would have just cause for complaint against the manufacturer. Then, if from looking over a dozen applicants for places in his store, he finds a wide range of difference in their qualifications, he has a cause for complaint against the boards and the schools, because they are all under the same label and should be uniform. We find young men who go to an adjoining State to be examined for license to practise pharmacy and ask for reciprocity back to their native States rather than take the examination from the boards in their own

* Read in joint session, San Francisco meeting, A. Ph. A.

States. We see students who fail in one school and are sent home taken up by another school and graduated. These conditions work to the detriment of pharmacy. Our standards need standardizing.

Solomon's problem of ascertaining which woman the baby belonged to was an easy one compared to the one a druggist has in telling what will be sent him when he orders a registered pharmacist. Something must be done by the boards and colleges to define the term. An employer of pharmacists has a right to know, when he asks a board or a school to send him a registered pharmacist, whether he will get a pink canary or an ostrich. He has a right to know whether the specimen will be merely a tangled mass of legs and arms or a man whose head is working.

We believe the boards are responsible for most of the inefficiency of the druggists of to-day. We believe there should be a national standard established to which examinations should be made to conform. We believe there should be an elimination of obsolete drugs. We require applicants to give the habitat, part employed, dose, and therapy of drugs that have not been prescribed since the Civil War. We require them to know intimately drugs and preparations of drugs that they will never hear of after they leave the examination room. Many of our boards still grill the applicants on botanical drugs that are practically unknown to the modern physician and are unused in this age of the world, and overlook entirely the domain of serum therapy. This is a wanton waste of time and effort, and, so far as fitting himself for the practice of modern pharmacy is concerned, the applicant might as well be trying to bail the ocean with a one-drachm graduate.

We believe that the boards should see that the applicants are qualified to practise the pharmacy of to-day and not the pharmacy of a score of years ago.

An applicant may know more about sarsaparilla root and cinchona bark than Mr. Gillette knows about safety razors, but when asked to prepare some of the newer materia medica for intravenous or intramuscular administration he will find this information about as valuable to him as a pharmacy certificate would be to a bricklayer. Many boards admit that the world moves, but these same boards will submit an examination that no more applies to the demands of modern pharmacy than the Edict of Nantes applies to the city government of San Francisco. The colleges and the boards should see that when an applicant is given his clearance papers he will fill the bill, in so far as qualification is concerned, when he hangs his gold-sealed parchments up in somebody's store.

A long term of years in the retail business has taught the writer that the qualifications of no craft of workers on earth are quite so uncertain as the qualifications of the men we decorate with authority to practise pharmacy. This is not the fault of the men, but rather the fault of the boards So long as each board has a standard of its own there will be no way to determine what a man's qualifications as a pharmacist will be. We urge that the National Association of Boards of Pharmacy, in addition to promoting a model pharmacy law, make a concerted move toward standardizing the examinations. Boards should not concentrate on fig leaves, as they have not been used since Mother Eve allowed them to go out of style in Eden. They should not ask an applicant to name the constituents of Warburg's tincture, giving the amount of each necessary to make a pint, because there is not a man outside of the "nuttery" who can give this from memory. Many a qualified pharmacist has failed because he was unable to write a chapter about some obsolete plant that flourished as a specific during the days of our grandfathers. Others have gone down in defeat because they could

not record the constituents and state the use of Brown-Sequard's anti-epileptic mixture, when there are probably not half a dozen men on the American continent who can remember the ingredients, and, so far as telling what it would be good for, we have never found anybody who would even venture a guess.

Schools and boards should be more practical. An applicant should be taught and required to know the things that will enable him to earn his salary and serve the world in the important capacity of pharmacist. He should be taught the processes of combining remedial agents that are in vogue to-day. Pharmacy is a practical science that has to do with modern problems, the solutions to which are to meet modern demands, and not a school for the study of the ignorance of former ages. Faculties and boards should coördinate their work. It would be better if they could agree to eliminate all obsolete, unofficial drugs, and not require applicants to give habitat, Latin official name, and synonyms of so many vegetable drugs that are no longer used. The applicant will have all needed practical knowledge if he limits himself to the official ones. We do not mean by this that all unofficial drugs or preparations of drugs should be left out.

The time we save from discontinuing the study of the therapeutic antiques, especially of botanical drugs, should be devoted to the newer materia medica. The wonders of serum therapy are beginning to loom up before us, and the treatment of disease by injecting solutions directly into the blood are of daily occurrence. The ever-restless trend of science is forward. The unsleeping eye of ambition is ever peering into the dim distance of the future in quest of a possibility that experiment may transform into an achievement.

We must keep up with the wizards of our day. We dare not stop to quibble over our yesterdays, lest we find ourselves lost in the trash heaps of things that were. We hope to see the colleges, the boards and the associations combine in an effort to bring pharmacy up to a uniform standard, thus making "Registered Pharmacist" mean the same thing in every State in the Union.

THE TRUE AIM OF SCIENCE.

The true aim of science, expressed in a word, is to increase the self-consciousness of man. We have emerged from lowly forms of life where self-consciousness is almost, if not quite, non-existent. Each advance has been in the direction of the acquisition of a greater degree of self-consciousness. Long ages ago man commenced to distinguish himself from the trees and stones about him. He began to form a picture of his universe and of himself as related to that universe. His consciousness grew: he distinguished between one tribe and another, between one family and another, between one individual and another. When Copernicus propounded his theory that the earth revolves about the sun, he altered, at one blow, man's conception of the relation between himself and the universe. Man saw himself more clearly: he was no longer the miraculously unique creature he had supposed himself to be. Darwin, with his origin of species, effected another great change in man's estimate of himself. Again man's self-consciousness, his conception of his relations to everything outside himself, acquired an extension and intensification. The main function of philosophy has been of the same kind, and it is interesting to note that it is now thought that the true significance of art is to be found in the same direction.—*From an editorial in Scientific American.*

SECTION OF PRACTICAL PHARMACY AND DISPENSING

EXTEMPORANEOUS TABLET MAKING.*

BY BERNARD FANTUS AND CLYDE M. SNOW.

This is an age of tablet medication. According to Kebler,[1] it is estimated that from one-fourth to one-third of all the medicaments in the United States are administered in the form of tablets. In view of this, is it not remarkable that dispensing pharmacists have so far taken very little interest in tablet making? The assumption is that tablets are unsuited for extemporaneous preparation because they require drying, and that they can be bought much more cheaply than they can be made by the dispensers. So far as the cost is concerned, it is just as true of pills, capsules, and suppositories as it is of tablets. The manufacture in large quantities is much more economical than the making of small lots; and whenever the demand for a certain kind of tablets justifies purchasing them in large quantities, it would not pay the retail pharmacist to make them. We believe, however, that so far as the making of prescription quantities is concerned tablets may as readily and economically be prepared as pills and suppositories.

The principal objection to extemporaneous tablet making is that drying is necessary, whether tablet triturates are to be moulded, or granules are to be prepared for the making of compressed tablets. If now a simple dry process of tablet making might be devised, extemporaneous tablet making ought to be easily accomplished. This study was undertaken to determine to what extent dry processes of tablet making are practical.

GRANULAR MATERIAL.

It is a well-established fact that granular material can readily be compressed in the tablet machine. Hence the following chemicals, kept as they usually are in granular form, are ready for compression in a tablet machine without further treatment: Ammonium chloride, potassium bromide, potassium iodide, potassium chlorate, monobromated camphor, hexamethylamine, chloral hydrate, thyroid, pancreatin, citrated caffeine, and saccharated ferrous carbonate.

Scales and crystals may be broken down to form granules, sifted through a No. 20 sieve, and they are ready for compression, provided the substance is fairly soluble, *e.g.*, boric acid, potassium permanganate, and pepsin. Gums and resins may also readily be made into tablets, as acacia and mastic.

Substances that are insoluble or almost insoluble, such as salol or phenacetine, can be readily made into tablets by themselves because of their flaky nature, but need the addition of a disintegrator; possibly the best is starch. Recently dextrin was suggested[2] for this purpose, 35 percent or 50 percent of which added to

* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., San Francisco meeting.

[1] Kebler, L. F., "The Tablet Industry," Jour. Amer. Pharm. Assn., June, July, August, 1914.

[2] Müller, Bertha S., "A Note on Compressed Tablets," Amer. Jour. Pharm., vol. 87, May 19, 1915, p. 197.

bismuth subnitrate does not make the tablets approach in disintegrating quality those made with 20 percent of starch. Hence salol tablets may be readily prepared by using one part of starch to four of salol. They are to be compressed in a tablet machine under considerable pressure. Betanaphthol, acetanilide, sulphonal, and trional may be made into tablets after the same formula.

FINE POWDERS.

We have thus far spoken of substances that are in granular or similar form. It has generally been assumed that substances in fine powder are unsuitable for tablet making. This is true if the fine powder is homogeneous. It is not true of certain powder mixtures: Dover's powder, for instance, lends itself readily to compression in a tablet machine.

The suggestion made by A. Schleimer[3] to add three percent of cacao butter shavings to the powder by gentle trituration is of extensive applicability, and enables one to make tablets of such substances as bismuth subnitrate, sulphur, calomel, and charcoal; indeed, of almost any other powder, especially if the proportion of cacao butter be somewhat increased, for instance, to five percent.

The following formula for bismuth subnitrate tablets is suggested:

Bismuth subnitrate	4. grammes
Starch	1. gramme
Cacao butter	0.1 gramme

One of the authors of this paper, experimenting rather extensively on the making of sweet tablets for "Candy Medication,"[4] has found that for sugar and analogous powders much more satisfactory results can be obtained by the use of starch impregnated with an oleaginous substance. The best is liquid petrolatum, for which the name "fat starch" is proposed and for which the following formula is given:

"FAT STARCH."

Liquid petrolatum	25
Starch	75

Mix by trituration.

This "fat starch," present in the trituration to the extent of 20 percent, enables one to make tablets of not only cane-sugar or milk-sugar, but also of all triturations containing a considerable proportion of either of these sugars, as well as of the following substances: Sodium bicarbonate, sodium salicylate, and aspirin.

It should be noted here that cacao powder added to the extent of ten percent lends itself to the same uses in tablet making as "fat starch," and where it is applicable it has the advantage of contributing flavor to the tablet. The added color is sometimes objectionable.

It might be interesting to speculate upon the reason that homogeneous powders in general do not lend themselves to tablet making, while certain heterogeneous powders are readily compressed into forms. A striking example of this is seen in sulphur and charcoal, neither of which can be made into tablets alone, but the addition of as little as two percent of charcoal to powdered sulphur will make almost perfect tablets. It has suggested itself to our minds that electricity might

[3] Schleimer, A., National Druggist, February, 1909, p. 54.

[4] Fantus, B., "Candy Medication," C. V. Mosby Company, St. Louis, 1915.

have something to do with these phenomena. It is well known that when a substance, *e.g.*, a glass rod or a stick of sulphur, is rubbed, it becomes electrified. When, therefore, we compress either powdered sulphur or powdered charcoal in a tablet machine, they might be expected to become electrified: the particles becoming charged with the same kind of electricity repelling each other, hence the failure to work well in the tablet machine. If now we mix these two powders which become electrified with opposite charges that attract each other, perfect working in the tablet machine is secured, provided the proper proportion is maintained. We have undertaken some work involving this thought, but have not advanced sufficiently to enable us at present to deny or affirm this hypothesis.

Tablets prepared by the foregoing processes disintegrate quickly and completely. For tablets made extemporaneously the following advantages are apparent:

1. They are fresh and unaltered.
2. The pharmacist can guarantee the product.
3. It is not necessary to buy large quantities.
4. It is not necessary to carry a large line of tablets.

It will be conceded that the tablet is a most convenient form of medication, and all indications are that its use will increase rather than wane. With the knowledge that the tablet is so popular, is it not the part of wisdom for the pharmacist to fit himself for preparing tablets so that he may be in a position to compound prescriptions for them in a manner that is in keeping with the profession? The manipulations are not difficult, the apparatus is inexpensive, and the different combinations can be quite as readily devised as for the same number of pills.

LABORATORIES OF PHARMACY AND OF PHARMACOLOGY OF THE UNIVERSITY OF ILLINOIS.

RULE FOR CONVERTING DEGREES FAHRENHEIT INTO CENTIGRADE AND REVERSE.

Professor Otto Raubenheimer has sent us the following rule for converting degrees of the Fahrenheit thermometer scale into those of the Centigrade, and, as with all good rules, the reverse calculation may also be made by the method, which is taken from the Bulletin of the College of Pharmacy of Jersey City.

Add 40 to the degree to be converted; if the conversion is from Fahrenheit to Centigrade, multiply the sum obtained by 5 and divide this by 9, then subtract 40 from the result of the division. If the conversion is from Centigrade to Fahrenheit, the only difference is in the second step; namely, the multiplication is by 9, and the division by 5.

A FEW GOOD TOILET PREPARATIONS.*

BY H. S. GROAT.

CASEIN MASSAGE CREAMS.

The most difficult to make and the least attempted of all toilet preparations are, without a doubt, casein massage creams. No single preparation meets with such universal use among the members of the fairer sex, as well as among men, as do these, and, strikingly enough, the most widely sold proprietary toilet preparation in the world is a certain commercial article of this class.

First, for a basis, let us consider for a moment the nature of casein. Milk, we are told, contains three proteid substances: casein, albumin, and globulin. The latter two exist in small quantities and are unaffected by the usual chemical precipitants of casein, but are coagulated by heat. Casein is precipitated by dilute acids, rennet, alum, magnesium sulphate, etc. It supposedly exists in milk in combination with phosphates, presumably the alkaline phosphates. The addition of acids breaks up this combination and precipitates the casein. The precipitation of casein by rennet is due to the presence in milk of calcium salts, and therefore is dependent upon the calcium.

In making casein creams, skimmed milk is recommended, because with pure milk some of the fatty substances may be brought down as part of the precipitate; especially is this true when rennet is used as the precipitating agent. A rancid product is the result when any of the fatty substances are precipitated with the casein, as butyric acid is formed by their oxidation with liberation of ammonia gas, hence the addition of boric acid to the finished product for the double purpose of both antiseptic and preservative.

FORMULA I.

Skimmed milk	1750.0
Magnesium sulphate	175.0
Alum	17.5

To each 100 grammes of the casein add

Boric acid	20.0
Cacao butter	10.0
Carmine	q. s.
Essence of bitter almond	q. s.

Heat the skimmed milk to 120° F., add the magnesium sulphate previously dissolved in hot water, and set the combined solutions aside for an hour. Heat to 135° F. and add the alum previously dissolved in water, and continue heating until the temperature reaches 145° F. Strain through cheese-cloth, wash the casein thoroughly in several waters, and then press dry. Tint the moist casein with carmine, thoroughly incorporate the boric acid and then add the melted cacao butter, then lastly the perfume.

This method of precipitating the casein is known as the alum-magnesium method. In the next formula the dilute acid method is used.

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* Read before Section on Practical Pharmacy and Dispensing, A. Ph. A., San Francisco meeting.

FORMULA II.

Skimmed milk	3850
Hydrochloric acid	30
Boric acid	30
Oil bitter almonds	3
Oil rose geranium	2
Oil sweet almonds	15
Solution carmine	sufficient

Add one gallon of boiling water to the milk, which should raise the temperature of the resulting solution to about 80° F. Mix the hydrochloric acid with a pint of water and add very slowly to the milk solution, stirring constantly to insure complete coagulation and precipitation of the casein, which by this method is caused to separate out in a much finer divided condition than by the alum-magnesium method. After an hour stir the mixture thoroughly in order to break up any and all of the little masses that may have formed, strain through cheese-cloth, and wash copiously in order to eliminate the hydrochloric acid from being present in the finished product. Allow the casein to drain in a cheese-cloth bag for thirty-six hours. Reduce the casein, which should have contracted into a dry, hard lump, to a fine powder, moisten with an ounce of alcohol, add the boric acid, the oil of sweet almonds, and incorporate thoroughly. Lastly add the oil of rose geranium, the oil of bitter almonds, and the carmine solution. It may be necessary to add a little water to make the whole mass a paste of the proper consistency.

In the manufacture of casein creams for the market care must be taken, first, not to tint the product too deep a color, as its sale is likely to be greatly hampered for this one reason; second, to put the product up in jars of tightly-fitting covers. Screw-capped jars have been found to be entirely unsatisfactory, due to the fact that casein creams give off moisture very readily and have a tendency to harden. This is decidedly an undesirable feature, which, if not properly guarded against, will greatly hinder the commercial success of the product, no matter how excellent or how extensively advertised.

COLD CREAMS.

Next to casein massage creams, cold creams are, perhaps, without a doubt the most difficult to make of all toilet preparations, as well as the least attempted by the average retail pharmacist. He is generally satisfied to sell a preparation of an eastern manufacture, whether it bears his own label or not, so long as it yields a better profit than the regularly-advertised proprietaries of this class.

A mixture of hard wax and an oil forms the basis of cold creams, sometimes vegetable and other times mineral. White wax, yellow wax, spermaceti, or hard paraffin, with petrolatum, petroleum oil, almond oil, or castor oil, form the common bases for cold cream manufacture.

Both the color and the softness of a cold cream are very important factors, especially as the commercial success of preparations of this character depends a great deal upon their reception by the fairer sex.

The white color so necessary for cold creams is generally obtained by the addition of borax at the proper stage in the manufacturing, the amount varying according to the different bases used in various formulas, more being used to gain the desired whiteness when yellow wax is used in place of paraffin or white wax for the hard base. The softness and fluffiness of the cold cream depend, first, upon the proper mixing of the oily solution or mass and the aqueous solution of the borax; second, upon the proper beating of the resultant mass into a cream when the mixture begins to harden.

FORMULA I.

Petrolatum	175.0
Liquid petrolatum	10.5
Paraffin	10.5
White wax	48.0
Sodium biborate	3.0
Glycerin	3.0
Water	120.0
Perfume	sufficient

Melt the white wax on a water-bath, add the paraffin, and when it is completely melted add the petrolatum and the liquid petrolatum. Dissolve the borax in the water, add the glycerin and heat the solution to 120° F., and add it gradually to the oil solution, which should be transferred to a Wedgwood mortar, care being taken that the temperatures of both the oil and aqueous solutions are the same at the time of mixing. When the mass begins to congeal, whip into a fluffy, white cream by the aid of a Dover egg-beater. Add 5 to 10 Cc. of perfume and beat in well after the cream has cooled.

In this formula we have white wax and paraffin for the hard base, and petrolatum and liquid petrolatum for the soft or liquid base. The borax is the whitening agent, water the diluent, and glycerin the modifying agent for the borax, converting part of it to boric acid—a preservative.

As a purely epidermatic agent—acting only on the surface of the skin—this formula is very good, though a cold cream, to meet with commercial success, must be of an endermatic nature—penetrating into, but not through, the skin—rather than of an epidermatic nature, as the usual object of applying a preparation of this class is to soften and whiten the skin by absorption into, but not through it, rather than by application of a simply surface-protecting emollient. Nevertheless, this preparation met with very popular favor, even if it is not theoretically perfect.

A first-class cold cream, very suitable for facial massage, is made from:

FORMULA II.

Expressed oil of almonds	77.0
Lanolin	15.0
Paraffin	18.0
White wax	18.0
Sodium biborate	1.5
Solution formaldehyde	0.2
Solution hydrogen dioxide	1.5
Oil rose geranium	0.2
Oil of rose	0.4
Water	27.0

Melt the wax and paraffin on a water-bath, and add the lanolin and later the almond oil. Dissolve the borax in the water and heat to boiling, add to it the formaldehyde and the hydrogen peroxide, and pour the aqueous solution slowly into the hot oil solution, both being at practically the same temperature at the time of mixing. Beat into a cream with an egg-beater, incorporating the perfuming oils before the mass hardens.

The use of almond oil as the liquid base is a decided advantage, as it is of a purely endermatic nature—that characteristic so greatly desired in cold creams. This property can also be augmented by the substitution of petrolatum for the lanolin, as the latter is diadermatic—passing through the skin to be absorbed into the system—instead of endermatic in its nature.

This particular cream, being a peroxide cream, possesses mild bleaching properties(?), which adds to its popularity. The formalin is added to increase antiseptic properties, though perhaps, on account of its presence being disliked by some, it might be satisfactorily replaced by the substitution of a like quantity of hydrogen peroxide.

FORMULA III.—*Non-greasy Skin Cream.*

Stearic acid	15.0
Cacao butter	2.5
Sodium carbonate	10.0
Sodium biborate	2.5
Glycerin	12.5
Water	200.0
Mucilage of tragacanth	50.0

Place all the ingredients in a porcelain dish on a water-bath and heat gradually until effervescence ceases. Remove the mixture from the heat, and when it begins to harden add the perfume—10 Cc. of quadruple extract dissolved in a like amount of alcohol—and mix well. Now heat until melted, and beat the preparation vigorously after the heat is removed, and it becomes fluffy and creamy.

FORMULA IV.—*Non-greasy Complexion Cream.*

Stearic acid	60
Glycerin	8
Sodium carbonate	8
Water	240
Witch-hazel water	300

Heat the water in a suitable vessel on a water-bath, add first the sodium carbonate, next the glycerin, and then the stearic acid. Continue heating until effervescence has entirely ceased. Finally add the witch-hazel and remove from the fire. Beat into a cream as the mixture cools and thickens.

TOILET LOTIONS.

In considering formulas for this class of preparations, we will treat of those of a tragacanth base first, as they are undoubtedly the most popular and most universally used. Of the different formulas considered, the following one yields the best all-round general toilet cream for both ladies' and gentlemen's use. It is favored by the ladies because it is not too sticky and is absorbed readily into the skin; gloves can be worn immediately after its application to the hands. Gentlemen like it very much, as it is an excellent after-shaving cream, in addition to its other toilet properties.

FORMULA I.

Tragacanth	3.0
Water	350.0
Glycerin	9.0
Alcohol	12.0
Menthol	0.5
Perfume	sufficient

Macerate the tragacanth in water for several hours, then strain. To this mucilage add the glycerin and then the menthol and perfuming agent dissolved in the alcohol. Mix. If too thick, dilute with 25 percent alcohol.

A very fine, non-sticky, disappearing face lotion is made from the following formula, recommended by Mr. Hiss, given on page 641 of vol. 51, Proceedings of the American Pharmaceutical Association:

FORMULA II.—*Face Lotion "Hiss."*

Tragacanth (pieces)	5
Boric acid	16
Water	475
Glycerin	80
Alcohol	80
Perfume	sufficient

Dissolve the boric acid in the water by the aid of heat, and to this hot solution add the tragacanth in small pieces; set aside and stir occasionally until the gum is thoroughly and completely softened. Then add the glycerin and strain the mixture forcibly through cheese-cloth and pass enough water through the cloth to make the liquid measure 700 Cc. Shake well and add the alcohol, in which is dissolved the perfuming agent. This is a first-class preparation in every way, and the only improvement that the writer can suggest is the addition of menthol, which in my experience made the preparation "delightfully popular," as the young ladies termed it.

Recently, toilet preparations containing magnesium sulphate enjoyed considerable popularity for a while, due, perhaps, to the large sale, a few years ago, of an extensively advertised "skin food," which upon examination proved to be nothing but crystallized Epsom salts. Of the several formulas experimented with, the following modified one proved the most popular:

FORMULA III.

Magnesium sulphate	120
Tragacanth, powdered	6
Glycerin	90
Heliotrope perfume	30
Water	sufficient, to 480

Triturate the tragacanth and the glycerin to a smooth paste in a mortar with 150 Cc. of water, then add the magnesium sulphate dissolved in 240 Cc. of water. Add the balance of the water, and finally strain through fine cheese-cloth.

The saline and cooling effect of the Epsom salts is desired by a number of people, especially those afflicted with freckles, as the magnesium salt is credited with a bleaching effect.

A choice preparation made from the double base of tragacanth and quince seed is:

FORMULA IV.

Tragacanth	0.4
Quince seed	3.0
Sodium borate	1.0
Boric acid	1.5
Alcohol	15.0
Boiling water	100.0
Glycerin	15.0
Sodium benzoate	0.5
Essence of violet	10.0
Solution of carmine	sufficient
Water	sufficient, to 200.0

Macerate the tragacanth in 50 Cc. of water until it dissolves or becomes a homogeneous mixture. Steep the quince seed in the boiling water for four hours, agitating frequently; then strain carefully through muslin and mix with the tragacanth mucilage. Dissolve the borax, sodium benzoate, and the boric acid in the remainder of the hot water. Mix the perfume, alcohol, and glycerin and add, portion by portion, to the combined tragacanth and quince-seed mucilage, shaking thoroughly after each addition to insure a thoroughly homogeneous mixture. Add a few drops of the carmine solution to give the desired tint, and lastly dilute to the desired consistency by the addition of water.

Of the many different drugs used as bases for toilet lotions, Irish moss proves to be highly satisfactory, as it yields with water a mucilage almost the consistency of syrup. Of the several formulas examined, the two following modified ones are best:

FORMULA V.

Chondrus	30
Water	960
Glycerite of starch	21
Sodium benzoate	2
Phenol	2
Essence jasmine	15

Wash the moss in cold water, place in a suitable vessel and add the water; heat to boiling on a water-bath for twenty-five minutes, strain and add the balance of the water. Add the glycerite of starch and other ingredients, except the perfume, heat on water-bath until all are dissolved, and strain again. Lastly, add the perfume.

FORMULA VI.

Chondrus	3.0
Glycerin	48.0
Boric acid	3.0
Alcohol	48.0
Zinc phenosulphonate	0.8
Water	sufficient, to 400.0
Perfume	sufficient
Solution of carmine	sufficient

Boil the chondrus in water, strain and add the glycerin, then add the balance of the water in which the boric acid and the zinc phenolsulphonate have been dissolved. Dissolve the perfume in the alcohol and add it gradually, shaking after each addition to insure a homogeneous mixture. Finally add carmine to tint to suit.

The phenolsulphonate adds to the antiseptic properties of the lotion, and, being quick-drying in nature, it is much desired in preparations containing a large amount of glycerin.

CHAP LOTIONS.

During the fall and winter there is always a great demand for chap lotions. Both of the following formulas yielded very satisfactory products:

FORMULA I.

Boric acid	8.0
Salicylic acid	15.0
Zinc phenolsulphonate	2.0
Menthol	0.7
Spirit of camphor	60.0
Glycerin	120.0
Compound tincture of lavender	15.0
Bay rum to make	500.0

Dissolve the acids and zinc phenolsulphonate in the bay rum and add the glycerin. Dissolve the menthol in the mixture of the compound tincture of lavender and spirit of camphor, and add to the acid solution a little at a time, shaking thoroughly after each addition.

FORMULA II.

Lemon-juice	40
Spirit of camphor	40
Bay rum	40
Glycerin	60

Add the glycerin to the lemon-juice and mix thoroughly. Incorporate the bay rum and then the spirit of camphor, portion by portion, shaking thoroughly after each separate addition.

COMMERCIAL COÖPERATION FOR NATIONAL UPBUILDING.

The experience of the Chamber of Commerce of the United States in dealing with national questions has definitely proved that the business men of the country in the management of their affairs should be foresighted. New laws are usually a matter of slow growth. Business men generally do not realize this, but if we look back into the history of important legislation in this country we will find that most legislative projects had their inception many years before they reached the stage of enactment. It has too often been the case, however, that business men have been almost wholly oblivious of the demand for legislation in certain directions and the steady growth of sentiment for such legislation as a result of the cumulative effect of discussion.

It is stated on authority that during the past five years some sixty-five thousand laws have been placed on the statute-books of the country. Many of them dealt with business directly or indirectly, and a considerable number of them were framed to correct unworkable or unjust legislation of the past. Many of the old measures, because of their deficiencies, clogged court calendars, added unnecessary uncertainties to business, and impeded justice. It would be interesting to know to what extent this might have been avoided if business years ago had tried in a careful, representative way to make this legislation right, and if legislators, on their part, had tried to understand honest, right-minded business men a little better.—*From an editorial by John H. Fahey, President of the Chamber of Commerce of the United States.*

CONTRIBUTED AND SELECTED

OIL OF STROPHANTHUS AND THE EMETIC ACTION OF STROPHANTHUS.

BY ROBERT A. HATCHER, M.D.

The chemistry and pharmacology of strophanthus and other members of the digitalis group have long presented many difficulties to the investigator, and the confusion resulting from unavoidable errors has been augmented by the publication of papers by careless observers and by those whose purpose was to mislead physicians in the interests of proprietary substitutes for the official drugs and preparations of this group.

The emetic action of strophanthus and other digitalis bodies is so annoying that many efforts have been made to discover its cause, and many suggestions have been offered concerning means of avoiding it.

So long as it was not known how these drugs induced emesis it was only natural that the various means suggested for avoiding it should usually prove futile when employed by the general practitioner.

Strophanthus contains a fixed oil, and it has been suggested that this oil is responsible, in part at least, for the nausea and vomiting occasionally seen after the therapeutic use of the tincture, which contains small amounts of the oil. The disagreeable odor of the isolated oil has given the suggestion a certain degree of plausibility.

It has been shown conclusively by Hatcher and Eggleston [1] that all of the digitalis bodies investigated by them induce nausea and vomiting through their action on the vomiting centre in the medulla, and that therapeutic doses of these drugs are without important direct action on the gastric mucous membrane.

It follows, from the foregoing statement, that the nausea and vomiting can be avoided only by the proper regulation of the dose, and any attempt to suggest ways of avoiding these disagreeable side actions without taking the cause into consideration merely serves to mislead in so far as the proffered suggestion is accepted.

The possibility that the oil or fat in digitalis and that in strophanthus might exert some nauseant action led me to undertake an investigation of the question some years ago, but the investigation was abandoned after I had become convinced that the nauseant action of therapeutic doses of these drugs was invariably of central origin, and that very large doses of the fixed oil or fat from these drugs could be administered to cats by the mouth without inducing symptoms of any kind.

The absence of any nauseant or emetic action of the oil or fat in therapeutic doses of digitalis and strophanthus was mentioned by Eggleston and Hatcher [2] in a paper dealing with the relative emetic activities of various digitalis bodies.

[1] Journal of Pharmacology and Experimental Therapeutics, 1912, iv, 113.

[2] Journal of the American Medical Association, 1913, lx, 499.

It has been said that when once an error finds a place in a text-book it becomes immortal, and so long as errors find champions they will demand refutation, and I have therefore extended the work done some years ago in order to obtain more exact information on the subject.

A discussion of the literature of the subject would be profitless, and I will say at once that I do not know of any investigator who has obtained evidence that the oil or fat present in therapeutic doses of tincture of strophanthus (or that of digitalis) has any action on the gastric mucous membrane that can be detected.

The present paper is intended to enable those readers who are not trained in the methods of pharmacologic research and in the interpretation of the results thus obtained with reference to their therapeutic significance to estimate correctly the work of those who attempt to show by the results of experiments that the oil of strophanthus contributes to the nausea and vomiting that are sometimes seen after the use of therapeutic doses of the tincture of strophanthus.

OIL OF STROPHANTHUS.

The official strophanthus (*S. Kombé*) contains about 30 to 34 percent of a greenish-yellow, non-drying oil, that is only slightly soluble in 95 percent alcohol, and soluble only in minute amounts in a mixture of alcohol and water in the proportion directed by the Pharmacopœia for making tincture of strophanthus. The isolated oil has a slightly disagreeable odor, somewhat resembling that of linseed oil, but the odor of the seed and that of the tincture are pleasant to many, and rather suggestive of the odor of certain edible nuts.

The several specimens of the oil of strophanthus that were used in the present series of experiments were obtained as follows:

1. A bright green oil, or fat,[3] solid at room temperature, readily soluble in 95 percent alcohol, obtained from a specimen of ground *Strophanthus Kombé* in an original package bearing the label of Gilpin, Langdon & Co.

This oil was obtained by shaking the ground seed with successive portions of petroleum benzin, filtering and evaporating off the benzin over a water-bath.

2. Green oil, similar to No. 1, extracted from the residue of an evaporated tincture of the ground seed just described.

3. A green oil closely resembling No. 1, extracted from the marc left after making the tincture from another portion of the seed that yielded No. 1.

4. A greenish-yellow oil, liquid at all temperatures above 0° C., only slightly soluble in 95 percent alcohol, and even less soluble in a mixture of alcohol and water in the proportion directed for making tincture of strophanthus. The seed

[3] Catillon (Bul. et Mem. de la Soc. thérap., Paris, 1887, p. 217) examined a specimen of *Strophanthus hispidus* that had been obtained from Africa and which he claimed to be of undoubted authenticity. He reported that the seed yielded 32 percent of a beautiful green oil, that was soluble in alcohol and which was probably inert. His description agrees exactly with the oil obtained by me from a specimen of ground *Strophanthus Kombé* bearing the label of Messrs. Gilpin, Langdon & Co., who have assured me they identify all lots of strophanthus ground by them.

from which this oil was extracted were supplied to me by Professor H. H. Rusby several years ago, and by him identified as *Strophanthus Kombé*. The seed were beaten in a mortar with sand and extracted in the manner described for No. 1. The yield of fixed oil was 34 percent of the weight of the seed.

5. An oil closely resembling No. 4 in appearance and solubility in 95 percent alcohol, extracted in the manner just mentioned from brown seed supplied by Professor Rusby and by him marked "Spurious" strophanthus (*Strophanthus hispidus?*).

No attempt was made to estimate the amount of oil in this seed, but about 25 percent was obtained by imperfect exhaustion.

PHARMACOLOGIC EXPERIMENTS WITH OIL OF STROPHANTHUS.

Two experiments were conducted by simply smearing the oil on meat and feeding it to cats. These ate the meat readily, while a third refused the meat so treated. In the remainder of the experiments the oil was weighed or measured and made into an emulsion with acacia and water, ten parts of the emulsion containing one part of the oil. The emulsion was administered to the cats through a stomach-tube, a little water being used to wash the vessel and the tube, the washings then being passed into the stomach.

The animals were observed until emesis occurred or for periods of one to three hours, and usually on the following morning, to see whether vomiting had occurred during the night.

It will suffice in most cases to report the results of the experiments, but a few of the protocols will be given in detail.

A cat of medium size received a dose of 100 mg. of the green (No. 3) oil per kilogramme of weight and another received a dose of 275 mg. of the same specimen of oil per kilogramme. Neither animal showed any symptoms.

One cat vomited and defecated after receiving a dose of 450 mg. of the green oil (No. 2) per kilogramme of weight, the effects being strongly suggestive of strophanthin poisoning.

I had gained the impression, from the results of experiments conducted some years previously, that the oil of strophanthus contained traces of strophanthin, and the impression was strengthened by the observations of the effects just mentioned. The following test was performed in order to determine whether traces of strophanthin were actually present in the oil:

A specimen of the green oil (No. 1) was dissolved in 95 percent alcohol and precipitated by the addition of water. The mixture was filtered through a previously-wetted filter, evaporated on a water-bath to a small volume, traces of oil being removed from the residue, and the latter injected intramuscularly into a cat. The animal died in thirty-eight minutes after having exhibited the typical symptoms of strophanthin poisoning, including nausea, respiratory disturbance, a peculiar cry that is typical of the sudden stoppage of the heart-beat, and convulsions. Another test gave nearly similar results, hence there can be no doubt that the specimen of green oil used in the experiment already recorded contained

traces of strophanthin, and steps were taken to purify the oils used in the subsequent experiments, by shaking them with alcohol and adding an excess of water to precipitate the oil. In one case (that of No. 5) a mixture of alcohol and ether was used in order to effect the solution of the oil. The oils were then collected on paper previously moistened with diluted alcohol.

The presence of the contaminating strophanthin is probably explained by the following observation: When the benzin with which the ground strophanthus had been shaken was decanted onto the filter-paper it was observed that a trace of impalpable powder passed through the filter; the filtrate was then passed through a second paper, an apparently clear filtrate being obtained, but when this was allowed to stand a trace of precipitate formed. The solution was filtered again and apparently all of the powder was removed, but doubtless traces of the powder continued to pass through the paper, though the filtrate was of a beautiful clear green color.

Doses of 250 mg. and 500 mg. of the purified green oil (No. 1) per kilogramme of weight respectively were administered to two cats through the stomach-tube without inducing perceptible effects. The following experiment may be described in some detail:

December 24, 1915, cat in poor condition, weight 1.4 Kg.

11:32 A.M., administered 850 mg. of purified green oil (No. 1) per kilogramme through a stomach-tube.

11:56, nausea.

11:57, emesis. (Note promptness with which emesis follows nausea.)

In order to determine so far as possible whether emesis had been due to contaminating strophanthin, which would have had to be absorbed to produce that effect, a test was made according to a method that I have described elsewhere,[4] which consists in determining the fatal dose of strophanthin by intravenous injection. Had strophanthin been absorbed from the gastro-intestinal tract less than the normally fatal dose would have been required by intravenous injection to kill the animal, but since it required the full normally fatal dose it is fair to conclude that emesis had not been due to strophanthin, but to the oil alone. This is the first instance in which it has been shown (so far as I am aware) that oil of strophanthus devoid of traces of strophanthin caused emesis in such small amounts, and it is the only instance in my series of experiments even where larger doses were given.

A cat received 0.25 Cc. (225 mg.) of purified yellowish oil (No. 4) per kilogramme of weight through a stomach-tube, and a second cat received twice as much relative to its weight. There was no perceptible effect in either case. Both cats ate small pieces of meat greedily at intervals of an hour for three hours. Two experiments deserve detailed consideration.

January 5, 1916, cat, weight 2.3 Kg.

2:38 P.M., 1250 mg. purified yellow oil (No. 4) per kilogramme through stomach-tube.

3:38 P.M., animal perfectly normal; excited when shown food.

4:38 P.M., observation exactly as preceding.

January 8, 1916, cat, weight 1.52 Kg.

1:23 P.M., 1250 mg. purified yellow oil (No. 5) per Kg. through stomach-tube.

2:23 P.M., cat arches back and shows satisfaction when stroked; does not eat.

3:33 P.M., observations exactly as preceding.

4:33 P.M., observations exactly as preceding. At this time an associate was requested to examine the cat to see if any abnormal behavior could be detected. The cat appeared absolutely normal.

[4] Journal American Medical Association, 1910, lv, 746.

Table I gives the results of the later experiments, except one in which a precipitate from tincture of strophanthus, obtained by chilling, was used. This precipitate was so obviously impure that the experiment was discarded, the cat having vomited from a large dose.

TABLE I.

Date	Dose in mg. of oil per Kg. weight.	Specimen No.	Result
12/ 6/'15.	450	2.	Emesis in 23 minutes.
12/ 8/'15.	100	3.	None; ate when fed after 3 hours.
12/ 8/'15.	275	3.	None; ate when fed after 3 hours.
12/24/'15.	250	pure 1.	None; ate when fed hourly, for 3 hours.
12/24/'15.	500	pure 1.	None; ate when fed hourly, for 3 hours.
12/26/'15.	850	pure 1.	Emesis in 25 minutes.
1/ 4/'16.	225	pure 4.	None in 3 hours.
1/ 4/'16.	450	pure 4.	None in 3 hours.
1/ 5/'16.	1250	pure 4.	None in 2 hours.
1/ 6/'16.	1250	pure 5.	None in 3 hours.

DISCUSSION.

The results of the foregoing experiments seem to show that the purified green oil of strophanthus (*Kombé?*) may sometimes cause emesis when administered to cats in doses of 850 mg. per kilogramme of weight, and that doses of 500 mg. per kilogramme may fail to induce any perceptible effect. The results of the experiments would also suggest that when emesis occurs with smaller doses of strophanthus oil it is probably to be attributed to traces of strophanthin, of which as little as 0.2 mg. per kilogramme of weight will cause vomiting after its absorption.

The experiments also show that the pure greenish-yellow oil obtained from *Strophanthus Kombé* of unquestioned authenticity, and an oil of similar appearance and solubility in alcohol, obtained from brown strophanthus seed (*hispidus?*) may be administered to cats by the mouth in doses of 1250 mg. per killogramme of weight without causing the slightest evidence of nausea, or any other perceptible effect.

The seed from which the green oil was obtained may be considered as fairly representative of the strophanthus used by the pharmacists of the United States, and I concede willingly that doses of 500 mg. of the oil per kilogramme of weight may cause nausea and vomiting in man, for it is well known that the sensitiveness of the gastric mucous membrane of the cat and that of man are of the same general order. It becomes necessary, therefore, to determine the amount of the fixed oil that may be taken by man during the therapeutic administration of the tincture of strophanthus, and to compare this with the amount probably required to induce nausea and vomiting.

A tincture of strophanthus was prepared from the commercial ground seed (that which yielded the green oil used in my experiments) according to the pharmacopœial directions. It was of a milky appearance and when chilled to a temperature of about 0° C. it deposited a copious whitish precipitate containing a little of the green fixed oil.

Ten Cc. of the filtered, chilled tincture were evaporated on a water-bath, and from the residue thus obtained there was extracted green fixed oil that weighed 0.046 Gm. When to this was added an aliquot part of the fixed oil obtained from the precipitate formed during chilling, the total amount of fixed oil in the recently-prepared tincture was found to be 0.62 w/v percent. That in the filtered, chilled tincture was 0.46 w/v percent.

The amount of fixed oil that might be present in an official tincture prepared from the official strophanthus supplied by Professor Rusby was calculated as follows: Five Cc. of the oil were shaken with 65 Cc. of 95 percent alcohol, which dissolved about 1 percent of its volume of the oil, and 35 Cc. of water were added. The mixture became creamy in appearance, owing to the precipitation of the oil, leaving a supersaturated solution of the oil in a

menstruum similar to that used in making the official tincture of strophanthus The solution, or mixture, was then filtered through paper previously moistened with alcohol and water in the proportion used for making the solution. The filtrate was quite milky in appearance, owing to the formation of extremely small globules of the oil that passed through a hard filter-paper.

On evaporation the solution yielded 0.38 percent of oil. A little of the oil was precipitated in larger globules when the mixture was chilled to about 0° C., and when filtered it contained 0.24 percent of the fixed oil.

The lower content of oil in this case than in that of the tincture is due to the fact that the yellow oil is far less soluble in 95 percent alcohol and in alcohol of lower percentages than is the green oil present in the seed used for making the tincture.

Accepting the higher percentage of fixed oil as fairly representative of that present in ordinary tincture of strophanthus, we may calculate the amount present in the average therapeutic dose of the tincture, which is 0.5 Cc., or about 0.0075 Cc. per kilogramme of body weight for a man of average size. Sixty-two hundredths of 1 percent of this dose is equal to 0.0000465 Cc., or, roughly, one-twentieth of a milligramme, which is, therefore, the amount of the fixed oil present in an ordinary therapeutic dose of the tincture per kilogramme of body weight, or one ten-thousandth of the amount required to cause nausea and vomiting in the cat, relative to the size.

As a matter of fact, we have seen that each of two animals received much larger doses of oil obtained from *Strophanthus Kombé* and from a specimen of brown seed (*hispidus?*), and not less than 60,000 therapeutic doses of a tincture of the latter would be required to furnish the amount of oil that was administered to a cat without inducing any symptoms whatever. The presence of the fixed oil does appear to render the tincture of strophanthus opalescent, and for the sake of pharmaceutical elegance the removal of the oil from the seed before making the tincture may be desirable, but there is no justification for the claim that this removal of the oil is necessary from a therapeutic standpoint.

SUMMARY.

1. The pure green oil of strophanthus (*Kombé?*) is apparently capable of causing nausea and vomiting when administered to cats in doses of 850 mg. per kilogramme. The greenish-yellow oil obtained from an authentic specimen of *Strophanthus Kombé* failed to induce any symptoms when administered to a cat through a stomach-tube in a dose of 1250 mg. per kilogramme.

2. The tincture of strophanthus contains only traces of fixed oil (0.24 to 0.62 percent), and the average therapeutic dose of the tincture contains an amount of the oil corresponding to less than one ten-thousandth of that required to cause nausea and vomiting in the cat, relative to the weight.

3. No evidence that is worthy of mention has ever been obtained (so far as the writer is aware) in support of the claim that the oil present in tincture of strophanthus contributes to the nauseant and emetic actions sometimes seen after the *therapeutic* use of the tincture.

4. Oil of strophanthus, obtained by shaking the powdered seed with petroleum benzin, filtering and evaporating, is likely to contain traces of strophanthin, which is an exceedingly active emetic.

5. The oil present in tincture of strophanthus renders the latter opalescent, and its removal from the seed previous to the preparation of the tincture results in a more sightly preparation, but this is of pharmaceutical—and not of therapeutic—importance.

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THE RAPID SEPARATION OF HEROIN AND MORPHINE.

BY JAMES M. DORAN.

The separation of heroin and morphine when present in solution in small amounts has caused the writer some difficulty in times past, not only in making quantitative determinations of each, but even in determining their presence qualitatively.

This separation becomes of peculiar importance because of the fact that the act of Congress, approved December 17, 1914, popularly known as the Harrison Anti-Narcotic Law, provides in Section 6, among other things, for the exemption of certain preparations containing not more than one-fourth of a grain of morphine nor more than one-eighth of a grain of heroin per fluidounce, or if solid or semi-solid in one avoirdupois ounce, provided such preparations are in fact medicines and not preparations for the purpose of evading the intentions and provisions of the act.

Many preparations have been examined in the laboratory of the Bureau of Internal Revenue which have been found to contain both morphine and heroin, besides other alkaloids, and in many cases in amounts very close to the exemption limit.

The usually-accepted method of separating heroin and morphine is based upon the solubility of the free base heroin, from an ammoniacal solution, in ether, morphine being relatively insoluble and remaining in the aqueous solution. Experience with this procedure has not been very satisfactory. The ordinary ether which contains up to four percent of ethyl alcohol carries morphine with it on account of the solubility of the free base morphine in ethyl alcohol.

The result is that the presence of morphine in the heroin extraction not only vitiates the quantitative result, but, in the case of very small amounts of heroin being present, the qualitative detection is rendered very difficult, if not entirely impossible. The use of absolute ether did not prove any more satisfactory. The heroin extraction contained some morphine, possibly due to the solution of some of the aqueous solution containing the free morphine in the ether.

In addition to these factors and possibly some others, objection is also made to the necessity of four or five extractions to get out all of the heroin, and the sources of error due to the necessity of drawing off the aqueous solution and transferring back to the separatory funnel after each extraction.

Any use of an extraction method in which a fixed alkali hydroxide is used to free the alkaloid base and hold the morphine in solution as alkali morphinate is valueless so far as the heroin is concerned, as it is almost immediately hydrolyzed into morphine by splitting off of the diacetyl radicle.

The problem seemed to be to find a solvent which would extract the heroin from the morphine in a fairly pure state and leave the morphine in such condition that it could be determined later. Chemically pure carbon tetrachloride proved to be such a solvent, and some of the details of its use are presented here. It dissolves the free base heroin very readily, and, while morphine is dissolved by it very slightly, the amount of solvent used is small and the length of time required for the solution of the heroin is so short that the amount of morphine taken up by the carbon tetrachloride is negligible.

In the experimental work no morphine was found in the heroin residue. Settling of the solvent is rapid, owing to its high specific gravity, and there is practically no emulsion formed.

The advantage of an immiscible solvent with these properties is obvious when a number of determinations are to be made.

Briefly the method used for separating and determining heroin and morphine is as follows:

Take of the sample a portion representing not over 0.2 gramme of either heroin or morphine: if tablets, dissolve in water slightly acidified with hydrochloric acid; if solid matter, treat with water acidified with dilute HCl and filter; if an alcoholic solution, make very slightly acid with dilute HCl and evaporate off the alcohol before proceeding.

Transfer the solution of the salts of the alkaloids to a separatory funnel, preferably of the Squibb type, neutralize with NH_4OH and make alkaline with 6 to 8 drops of NH_4OH (1 to 1). Add 25 Cc. CCl_4, shake, let stand, and draw off through a 7-cm. dry filter paper into a tared dish. Repeat the extraction twice, making three extractions in all. Evaporate on steam-bath to dryness, heat in oven at 100° C. for not over 10 minutes, cool, and weigh as heroin. The amount of heroin may be further checked by taking up in an excess of N/25 H_2SO_4, heating to effect complete solution, and titrating the excess of acid with N/25 NaOH, using methyl red as an indicator.

The weighed residue of heroin can be tested qualitatively if desired.

It is best done by taking it up in about 1 Cc. of N/10 HCl, placing a drop of this solution on a slide, and adding a drop of 5 percent platinic chloride solution. An amorphous yellow precipitate is formed, and, when viewed under a microscope, very characteristic crystals of the heroin platinic chloride appear within a few minutes. This crystal form has been described by Putt,[1] and is to be recommended as an excellent identification of the alkaloid heroin. Color tests may also be made on the residue, using Froehde's and Marquis's reagents.

For the determination of the morphine remaining as the free base in the ammoniacal solution the iso-butyl alcohol-chloroform extraction method of Dohme[2] is recommended. It has been found to be quick, satisfactory as to manipulation, and to remove practically all of the morphine. The procedure is as follows: The ammoniacal morphine solution remaining after the heroin has been removed is extracted with about 30 Cc. of iso-butyl alcohol-chloroform (1 to 1) in the same separatory funnel, and the extract drawn off through a dry 7-cm. filter paper into a thick-walled flask. This extraction is repeated until the morphine has been removed from the mother liquor; three extractions will usually suffice. The flask is placed on a steam-bath and the $CHCl_3$ distilled off. When the $CHCl_3$ has been driven off, suction is applied and the iso-butyl alcohol is distilled off under diminished pressure. An intermediate suction flask serves to condense the iso-butyl alcohol, which may be recovered for use again by a redistillation. The residue of morphine is taken up with an excess of N/25 H_2SO_4, heated to insure complete solution, and the excess titrated with N/25 NaOH, using methyl red as an indicator.

For the qualitative detection of morphine, in addition to the well-known color reactions, the characteristic crystals of morphine precipitated with iodine, as seen under the microscope, are very distinctive, and the reader is referred to Putt (see above) for further details of the test. The writer's experience has been that 15 percent of morphine present vitiates the heroin platinic chloride crystals test, and, *vice versa*, the presence of 50 percent of heroin prevents the formation of the morphine-iodine crystals. These facts, together with the well-known weaknesses

[1] J. I. and E. C., vol. 4, No. 7.

[2] Jour. A. Ph. A., vol. iv, No. 1, p. 85.

of the color reactions for identification of these alkaloids when not in a pure state, emphasize the necessity for obtaining fairly pure residues even for qualitative detection.

In the experimental work the salts used, morphine sulphate, heroin, and diacetyl morphine hydrochloride, were the ordinary commercially pure salts as sold by the trade, and no attempt was made to further purify them. Commercial morphine sulphate, while it is considered a fairly pure commercial product, nevertheless contains a small amount of the other alkaloids of opium, principally codeine. This fact probably accounts for some of the discrepancies of the analyses other than those due to analytical errors.

Following are some of the results obtained:

	Salt taken		Salt found	
	Morphine sulphate, Gm.	Diacetyl morphine hydrochloride, Gm.	Morphine sulphate, Gm.	Diacetyl morphine hydrochloride, Gm.
1.....	0.0404	0.0809	0.0409	0.0820
2.....	0.1620	0.0806	0.1607	0.0808
3.....	0.1620	0.0806	0.1622	0.0785
4.....	——	0.0809	——	0.0793
5.....	0.0500	0.0500	0.0485	0.0471
6.....	0.0500	0.0500	0.0470	0.0467

In titrating the heroin residue and using the factor 1 Cc. N/25 H_2SO_4 = 0.01622 Gm. heroin hydrochloride or diacetyl morphine hydrochloride, which was the salt used, it was observed that the result was about 5 percent below the weight of the residue if calculated as the hydrochloride, and also bore the same relation to the amount of the salt weighed out. This matter was taken up by Harris and Clover,[3] who showed that the salt on the market was monohydrated. Shaefer [4] is also quoted as stating that the only salt found on the market was monohydrated. This should be remembered if calculating the amount of commercial heroin hydrochloride present from the titration figures: 1 Cc. N/25 H_2SO_4 = 0.01694 Gm. heroin hydrochloride, or diacetyl morphine hydrochloride, monohydrated.

Carbon tetrachloride readily dissolves the free bases of dionin (ethyl morphine), peronin (benzoyl morphine), and codeine (methyl morphine).

If codeine, heroin, and morphine are present, the codeine and heroin can be removed by CCl_4 and weighed. The morphine can then be determined by the iso-butyl alcohol-chloroform extraction. Another portion of the solution may then be treated with 10 Cc. of 2N NaOH, which completely hydrolyzes the heroin to morphine without the use of heat.

The codeine may be extracted from the alkaline solution by CCl_4 and weighed, the alkaline liquor containing the other alkaloids is acidified, then made alkaline with NH_4OH, and the total morphine determined. The increase of morphine is due to heroin, and it may be calculated. However, any complex mixture of alkaloids, as is well known, requires special treatment, and the foregoing remarks apply only to the simple mixtures.

Two hours is ample to complete the determination of heroin and morphine as outlined above, and the procedure is well adapted to routine qualitative and quantitative examinations.

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[3] Jour. A. Ph. A., vol. iv, No. 3, p. 291.

[4] Amer. Jour. Pharm., 82, p. 220.

SELECTION AND TECHNIC OF AN APPROPRIATE METHOD FOR ESTIMATING PHENOL.

BY JOHN W. FORBING.

Text-books, technological treatises, and chemical literature in general have given considerable space in presenting methods and modifications of methods for the estimation of phenol, or carbolic acid. Without exception these methods are instructive and ingenious and more or less accurate. A summary, together with brief criticisms, makes interesting reading. There is some use, practical as well as pedagogical, in making a selection from these methods which will prove appropriate to equipment and object in view. The determination of choice rests ultimately on three factors: accuracy, time, and economy. The methods may firstly be divided into two groups: gravimetric and volumetric.

Gravimetric
- Landolt: production of tribromphenol and weighing per se.
- Riegler: production of an insoluble diazo-acid, $C_6H_4NO_2C_6H_4OH$ with para-diazonitraniline, drying at 100° and weighing.

Volumetric
- U. S. P. (Koppeschaar).
- Koppeschaar, Sutton Modification.
- Koppeschaar, Sutton Modification, with author's modification.
- Iodometric method, Messinger and Nortmann.
- Schwalbe's Diazo method.
- Sodamide Method, S. B. Schryver.

The Landolt method of the volumetric group is not to be considered efficient, in that its operation is tedious and requires too much time with ordinary equipment. From an instructive standpoint, however, it has merit. It teaches that bromine can be made to enter into combination with phenol to form tribromphenol quantitatively. Further, the Landolt method is of historical interest. It formed the basis for the more rapid volumetric methods which followed its introduction.

The Riegler gravimetric method (Chem. Centr., 1899, 322) is ingenious but less accurate than that of the Landolt, with no advantages. It is of some value in the dye industry and of special interest to the research worker. It accentuates the fact that the field of research, which is to produce an insoluble phenol derivative for the purpose of gravimetrically estimating carbolic acid, is a very barren and unproductive one at the most.

The U. S. P. method has all the essentials of efficiency when a large number of estimations are to be made, or samples to be assayed are to be depended upon to arrive at frequent intervals. For the worker who has occasion rarely to estimate phenol the official method has disadvantages from the viewpoint of economy, and no advantages, even in time. Therefore, for the worker in question, who is by no means in the minority, the U. S. P. method is not to be selected. It requires a preparation of a N/10 bromine V. S., which in turn requires standardization, and sodium bromate, an article rarely carried in stock, necessitating, in consequence, both time and expense.

For the requirements of the workers above described, the Sutton modification as given on p. 393, "Volumetric Analysis," 9th ed., would answer very nicely were it not for the fact that it leaves too many loop-holes for error.

The iodometric method devised by Messinger and Nortmann (Ber., 1891, 2753; J. Soc. Chem. Ind., 1890, 1070) is based on the bromine method; obviates the use of bromine by substitution of iodine. It introduces, while doubtless tending to do otherwise, as much detail as any of the Koppeschaar modifications; does not save time, and is of uncertain accuracy.

Schwalbe's Diazo-Method, applicable for phenol volumetric estimations (Ber. 38, 3072, 1905; Bucherer, Z. Ang. 20, 877, 1907), is used to some extent in the German technical laboratories. It is possibly based on the Riegler method and owes its origin to the facility with which phenols unite with diazo-solutions to form oxyazo dye products. The following is a well-known type of the reaction:

$$\underset{\text{Diazobenzolchloride}}{C_6H_5N_2Cl} + C_6H_5OH + 2NaOH = \underset{\text{Oxyazobenzol}}{C_6H_4N_2C_6H_4ONa} + NaCl + 2H_2O$$

p-Nitrobenzoldiazonium chloride serves best for the titrating solution. N/10 V. S. is produced from p-nitraniline and standardized with resublimed beta-naphthol. This method, interesting to the organic chemist, has a limited technological application, but is of little use to the general and pharmaceutical chemist.

The sodamide process, originated by S. B. Schryver (J. Soc. Chem. Ind., 1899, 553), takes advantage of the reaction between hydrocarbons containing hydroxyl groups, and $NaNH_2$, liberating NH_3, which is collected and titrated with acid. A type of the reaction is the following:

$$NaNH_2 + C_6H_5OH = NH_3 + C_6H_5ONa$$

The method is decidedly applicable and especially praiseworthy for the estimation of phenol in the presence of hydrocarbons which are attacked by bromine. It has its specialized application, but it is not to be thought of for a simple phenol assay.

For phenol assays the author proposes that a stock solution of C. P. NaOH, 40 percent, be kept on hand. This solution is an inexpensive one, and may serve many purposes; preparation of 5 percent reagent, for making volumetric solutions, Kjeldahl estimations, etc. Due to its concentration, the carbonate formed unavoidably is rendered less soluble than in more diluted solutions; is precipitated, and thus by decantation a solution of comparatively pure NaOH may at any time be easily obtained. From this solution 100 Cc. of N/1 NaOH is prepared. 10 Cc. of the 40 percent solution is run from a burette into a 100 Cc. graduated flask and water added to mark. This solution, which approximates a N/10 NaOH V. S., is titrated with N/10 H_2SO_4. A series of titrations are made, using as indicator methyl-orange, and the mean taken. Thus, for example, if 10.7 Cc. of the soda dilution is required to neutralize 10 Cc. N/10 H_2SO_4, then 10.7 Cc. of the 40 percent stock solution of C. P. NaOH diluted to 100 Cc. will produce 100 Cc. of N/1 solution. The N/2 NaOH, thus produced, enables us to measure off positively known quantities of pure NaOH.

A solution of NaOH, when treated in the cold with bromine, unites according to the following equation:

$$6NaOH + 3\ Br_2 = NaBrO_3 + 5\ NaBr + 3\ H_2O$$

If $NaBro_3$ and NaBr be treated, according to the molecular proportions represented in the above equation, with HC_1, the entire equivalent of bromine is liberated.

$$NaBrO_3 + 5NaBr + 6HCl = 6\ NaCl + 3\ H_2O + 3\ Br_2$$

Thus:

$$6\ NaOH = 3\ Br_2$$
$$(240)\ \ (480)$$
$$1\ Cc.\ N/1\ NaOH = 0.04\ Gm.\ NaOH = 0.08\ Br.$$

As we depend on nascent bromine derived from this source to act on the phenol to be estimated, the reaction was checked as follows:

5 Cc. N/1 NaOH was run from a burette into a 50 Cc. conical beaker with lip, and pure bromine added by means of a pipette. This was agitated and sufficient bromine added to produce a solution having a decided brownish color. The excess of Br was then driven off by boiling until the solution was perfectly colorless. This solution was washed into a 100 Cc. glass-stoppered flask containing 5 Gms. KBr (KBr being added to increase the solubility of bromine liberated later). The washings complete should make a solution measuring approximately 75 Cc. 5 Cc. HCl was added and care taken to replace stopper immediately. The flask was shaken and 5 Cc. of a solution (1 in 20) KI added, stopper replaced, flask shaken, and the iodine liberated as represented in the following equation, was titrated with N/10 $Na_2S_2O_3.5H_2O$.

$$2\ KI + Br_2 = 2\ KBr + I_2$$
$$2\ Na_2S_2O_3 + I_2 = 2\ NaI + Na_2S_4O_6$$

The mean of a series of titrations was 50.2 Cc., N/10 $Na_2S_2O_3$, using starch solution as indicator.

1 Cc. N/10 $Na_2S_2O_3.5\ H_2O$ =	0.008 Gm. Br.
Found ..... 0.008 × 50.2 =	0.4016 Gm. Br.
Theoretical	0.4000 Gm. Br.

Calculation for theoretical:

$$1\ Cc.\ N/1\ NaOH = 0.04\ Gm.\ NaOH$$
$$5\ Cc.\ N/1\ NaOH = 0.20\ Gm. = 0.40$$
$$NaOH\ \ Br.$$

This preliminary work gives assurance that the N/1 NaOH will carry and liberate the theoretical amount of Br within limits of negligible error.

The next step is the preparation of a phenol solution 10 Cc. of which will contain supposedly 0.1 Gm. phenol. In our laboratories we keep on hand a 90 per-cent stock solution of carbolic acid which is used for the determination of the phenol coefficients of disinfectants. This solution was used for assay. 1.11 Gm. diluted to 100 Cc. produces 100 Cc. of solution, 10 Cc. of which equals 0.1 Gm. phenol. The ordinary liquid phenol of the Pharmacopœia, any phenol solution, or crystals may, of course, be made into such a solution. 10 Cc. of this solution is placed in a 200 Cc. glass-stoppered flask. 7 Cc. of the N/1 NaOH is run from a burette into a 50 Cc. conical beaker, treated with bromine as described, boiled and washed into the flask containing the phenol. 5 Gm. KBr is added, dissolved, and contents cooled by affusion of cold water. 5 Cc. HCl is added quickly and the flask stoppered at once and shaken at intervals for 15 minutes. The bromine liberated according to the equation previously given unites with phenol to form insoluble yellow-colored 2-4-6 tribromphenol.

$$C_6H_5OH + 3\ Br_2 = C_6H_2Br_3OH + 3\ HBr.$$

5 Cc. of a solution of KI (1 in 20) is then added. The bromine not taken up by the phenol liberates its equivalent of iodine, the flask with washings and addi-

tions contains about 150 Cc. of fluid. N/10 $Na_2S_2O_3.5H_2O$ is run in until but faint color of iodine remains, starch solution added and titration completed.

Calculation:

$$6\ NaOH = 3Br_2 = 3\ I_2 = 6\ Na_2S_2O_3 = C_6H_5OH$$

$$6\ )240 \qquad 6\ )\ 94$$

$$40 \qquad 15.66$$

1 Cc. N/1 NaOH = 0.01566 Gm. phenol.

7 Cc. = 0.015667 = 0.10962 Gm. phenol.

1 Cc. N/10 $Na_2S_2O_3.5\ H_2O$ = 0.001566 Gm. phenol.

6.04 Cc. (the means of a series of titrations) were required for excess of iodine, or excess of bromine in terms of phenol would be $6.04 \times 0.001566 = 0.00946$ Gm. phenol, which subtracted from the total amount equivalent to 7 Cc. N/1 NaOH, or 0.10962, is 0.10016 Gm., or amount of phenol present in 10 Cc. of the phenol dilution. 10 Cc. of the phenol solution is equal to $1.11 \times 10 = 0.111$ Gm. sample used for assay.

$$0.1002 : 0.111 : : \times : 100$$

$$\times = 90.28 \text{ percent}$$

This analysis was checked by that given in "Essentials of Volumetric Analysis," Schimpf, 2d ed., which is essentially the same as U. S. P. A series of analyses by the U. S. P. method (Schimpf) gave 90.8 percent phenol.

RÉSUMÉ.

Author's Koppeschaar Modified Method, Phenol.....	90.28 percent
U. S. P.	90.80 percent

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PRESENCE OF OXYGEN IN RANCID FATS.

It is well known that many fats, such as butter, lard, olive oil, and oil of sweet almonds, when exposed to the air, and becoming rancid, absorb oxygen. This is not, as has been stated, due to the presence of an oxidase in the fats. The author finds that after having been heated to a temperature of 120° C. they absorb oxygen as readily, on exposure to the air, as they do previous to being so heated. If, however, they are heated to 200° C. the property of absorbing oxygen is lost. Rancid fats are found to give the characteristic blue color with tincture of guaiacum and blood or hæmoglobin solution, similar to that given by hydrogen peroxide, or oxidized oil of turpentine. In the presence of a peroxidase, therefore, the oxygen, combined by the rancid fats, is liberated. The test may be used to determine the freedom of fats from rancidity. About 10 Gms. of the material, if butter or lard, previously melted, is treated with 4 or 5 drops of an aqueous dilution of blood, or of 3:100 aqueous solution of hæmoglobin, 10 drops of 5:100 solution of guaiacum resin in alcohol 70 percent, and 10 mils of distilled water. After thorough shaking together for one minute the vessel is corked and set aside. Fresh fats or oils free from rancidity will show no color. With those that are rancid the emulsion will show a more or less pronounced blue tint proportional to the degree of rancidity. When the change in the fat is only slight, a sharper and more delicate reaction is obtained by adding to the emulsion an equal volume of alcohol 95 percent. The acidity of rancid fats does not interfere with this reaction, and its removal does not lessen it. Fresh oils exposed to the air will give the blue color in twenty-four to forty-eight hours. Lard and butter require longer, not showing any reaction until after four or five days' exposure, by which time the rancid odor will be very perceptible.—J. Vintilesco and A. Popesco (*J. Pharm. Chim.*, 1915, 12, 318).

HYDROLYSIS OF SOME OF THE COMMON VEGETABLE OILS.*

BY W. F. RUDD, RICHMOND, VA.

The paper presents results of experiments relating to the hydrolysis of several vegetable oils. In the first series of experiments, tabulated, the oils were treated with an alkali, in the next with an enzyme, and in the third with both alkali and enzyme. One of the objects of these investigations is to determine, if possible, whether the relative saponification factor will convey a knowledge of their relative digestibility.

The use of the vegetable oils both for food and as medicinal agents dates back as far as recorded history goes. The recovery of these oils on a commercial scale has made necessary the use of technical appliances ranging from the simplest contrivances to the very elaborate machinery that is being used to-day. Pliny describes in detail apparatus and processes employed in the manufacture of olive oil in his time. The Chinese have employed for centuries the same series of operations which are now followed in the most advanced oil mills of modern times, viz., bruising and reducing the seed to meal under an edge tool or stone, heating the pulp in open pans, and pressing out the oil in a wedged press.

The invention of the hydraulic press in 1795 by Joseph Bramah effected a revolution in the oil industry, introducing a new, easily-controlled, and an almost unlimited source of power.

A study of some of the properties of oils is prompted by the rapid increase in their use commercially. The fact that in the year 1912 the cotton-seed oil products in the United States were worth $147,680,000 is a matter of much more than passing interest. Industries of this size are employing the best-trained chemists, as their success or failure is, in many instances, largely dependent upon laboratory findings. In few fields of endeavor is the chemist's work of more direct value to the average citizen. The vegetable oil chemist has arrived and is now reckoned with. The future seems to promise a great deal more for him.

Among the many lines of investigation which the oils offer, the writer feels that perhaps not one is of more interest than a study of the relative ease of saponification among them. The nature of the hydrolysis products of the individual oils has been very thoroughly studied by a number of men. We have been able to find little work, however, on the comparative hydrolysis of the common oils.

The experiments which we desire to report in this paper were arranged to determine, if possible, which of the common oils would saponify most readily under a given set of conditions. There may be some very practical relation between ease of saponification and digestibility. When the former has been definitely determined, feeding experiments covering a very wide range should be undertaken to establish this point. We used samples of a rather high degree of purity after having found their ordinary constants to be well within prescribed limits. We believe that the results obtained represented fairly what we should expect from good grades, ordinarily purchased in the open market.

In the first series of experiments the oils were treated with alkali only, in the second with some enzyme, and in the third with both alkali and enzyme.

The method followed in the first series was to determine amount of free acid in each sample and then bring them all to the same acidity by addition of oleic

* Read before Scientific Section, A. Ph. A., San Francisco meeting.

acid, rechecking each sample. The saponification number was taken, and from this the amount of potassium hydroxide necessary to saponify a given amount was calculated. Check samples of each oil were carefully weighed, and to each was added the calculated amount of alcoholic potash solution, plus exactly a 20 percent excess. Samples were agitated in the same amount, and heated to boiling for five minutes. The excess of KOH solution was titrated with half normal HCl solution, phenolphthalein being used as indicator. A blank was, of course, run in every case. As may be expected, all the oils—corn, cotton-seed and olive—were completely saponified in this experiment.

In the next group the conditions were duplicated, except that the temperature of 60° was maintained for the same length of time. The results are given in the following table:

Oil	Weight (grammes)	Percent saponified	Average
Olive	4.1462	83.857	82.611
	1.2634	81.366	
Cotton-seed	4.383	84.925	84.422
	4.3804	83.919	
Corn	4.2244	83.521	83.275
	4.5532	83.029	
Olive	4.3282	79.776	80.408
	4.3882	81.041	
Cotton-seed	4.3614	87.653	81.386
	4.363	85.120	
Corn	4.627	87.196	87.423
	4.540	87.651	
Olive	4.3856	74.276	76.946
	4.3586	79.616	
Cotton-seed	4.3876	84.898	85.624
	4.3463	86.351	
Corn	4.526	86.102	86.491
	4.505	86.881	

Average percent saponified	
Olive	79.988
Cotton-seed	85.477
Corn	85.730

In this series the oils were heated for two and a half hours at a temperature of 37.5°.

Olive	4.1522	86.91	88.379
	3.973	89.848	
Cotton-seed	4.0522	91.283	88.886
	4.0108	86.389	
Corn	4.1502	90.983	89.428
	4.1738	87.879	
Olive	4.3486	87.469	84.366
	4.3734	81.264	
Cotton-seed	4.1598	86.379	85.732
	4.2174	85.085	
Corn	4.3408	86.775	89.050
	4.3154	91.266	
Olive	3.2526	Broken	76.581
	3.7146	76.581	
Cotton-seed	4.3136	86.602	86.954
	4.0054	87.307	
Corn	4.0932	88.261	88.417
	3.9788	88.574	

Oil	Weight (grammes)	Percent saponified	Average
Olive	4.1206	86.71	86.722
	3.862	86.734	
Cotton-seed	4.2098	85.371	85.631
	4.1890	85.891	
Corn	4.1830	84.506	84.501
	4.0448	84.496	

Average percent saponified	Olive	85.073
	Cotton-seed	86.788
	Corn	87.849

A close inspection of the figures in these tables indicates, but by no means proves, that under the influence of alkaline solutions the oils hydrolyze in the following order: corn, cotton-seed, and olive. The results in the individual cases are not consistent, but the variations are not such as to warrant an entire discredit of the averages under each table. It will be observed that fourteen tests were made with each oil.

In the next series of experiments we attempted to compare the rate of hydrolysis of the same oils under the influence of a fat-splitting enzyme. The enzyme solution was prepared by dissolving 2 Gms. of pancreatin in 100 Cc. of water. Five Cc. of this solution was used in each determination. Ten samples of each oil were run in this series, and the appended table gives the results in terms of percent of each sample saponified. Experiment number five is omitted in the table, and the average of nine instead of ten is reported, data for number five being inadequate.

The results reported in this table are much more concordant than those in the experiments where alkali is used as the hydrolyzing agent. The percent saponified is much lower, however.

Oil	Weight (grammes)	Percent saponified	Time	Average
Experiment No. 1:				
Olive	3.020	1.850	22 hours	1.850
	3.035	1.850	22 hours	
Cotton-seed	3.019	2.490	22 hours	2.470
	3.000	2.450	22 hours	
Corn	3.001	1.370	22 hours	1.330
	3.002	1.300	22 hours	
Experiment No. 2:				
Olive	3.014	1.570	44 hours	1.590
	3.016	1.610	44 hours	
Cotton-seed	3.007	1.790	44 hours	1.795
	3.016	1.800	44 hours	
Corn	3.005	1.530	44 hours	1.520
	3.022	1.510	44 hours	
Experiment No. 3:				
Olive	3.014	1.740	44 hours	1.710
	3.020	1.690	44 hours	
Cotton-seed	3.028	2.040	44 hours	2.035
	3.003	2.030	44 hours	
Corn	3.017	1.770	44 hours	1.775
	3.027	1.780	44 hours	
Experiment No. 4:				
Olive	3.024	2.110	22 hours	1.980
	3.030	1.860	22 hours	
Cotton-seed	3.034	2.590	22 hours	2.340
	3.009	2.090	22 hours	
Corn	3.009	1.410	22 hours	1.405
	3.023	1.400	22 hours	

Oil	Weight (grammes)	Percent saponified		Average
Experiment No. 6:				
Olive	3.026	1.400	44 hours	1.400
	3.020	1.400	44 hours	
Cotton-seed	3.020	1.760	44 hours	1.765
	3.036	1.770	44 hours	
Corn	3.011	1.740	44 hours	1.710
	3.041	1.680	44 hours	
Experiment No. 7:				
Olive	1.508	5.830	22 hours	5.900
	1.517	5.970	22 hours	
Cotton-seed	1.518	5.690	22 hours	5.760
	1.525	5.840	22 hours	
Corn	1.517	3.440	22 hours	3.610
	1.522	3.790	22 hours	
Experiment No. 8:				
Olive	1.510	3.320	22 hours	3.280
	1.502	3.250	22 hours	
Cotton-seed	1.509	3.210	22 hours	3.630
	1.508	4.060	22 hours	
Corn	1.514	2.880	22 hours	2.910
	1.524	2.950	22 hours	
Experiment No. 9:				
Olive	1.521	3.140	22 hours	3.100
	1.527	3.070	22 hours	
Cotton-seed	1.519	3.720	22 hours	3.710
	1.524	3.700	22 hours	
Corn	1.506	3.410	22 hours	3.410
	Lost	Lost	22 hours	
Experiment No. 10:				
Olive	1.501	6.050	44 hours	5.930
	1.510	5.820	44 hours	
Cotton-seed	1.507	4.950	44 hours	4.900
	1.513	4.850	44 hours	
Corn	1.501	3.960	44 hours	3.720
	1.508	3.480	44 hours	

Average percent of each oil as per this table:	
Olive	2.970
Cotton-seed	3.150
Corn	2.370

It would appear that under the conditions as followed in these experiments cotton-seed oil is hydrolyzed more readily than the others. Not only is the average higher, but the percent is higher in thirteen out of the eighteen individual cases.

In the last series which we are reporting conditions similar to those in the intestine were attempted. Known weights of the same oils were carefully neutralized, and an amount of standard alkali proportional to the weight of oil was added to each sample.

Three samples of pancreatin, each the product of a different manufacturer, were used, each oil being treated with each enzyme, and with alkali alone as blanks. The samples were all agitated uniformly and kept at a temperature of 36° to 37.5° for twenty-three hours. The excess of alkali was then titrated with tenth-normal acid. We report averages only in this part of the work, as the complete table is more or less involved.

Average percent of added alkali consumed by—

Olive oil	41.800
Cotton-seed oil	38.800
Corn oil	44.300

Reported in terms of activity of the three enzymes used, we have the following:

Average percent of alkali consumed in presence of—

Enzyme No. 1	63.300
Enzyme No. 2	38.600
Enzyme No. 3	38.700
Oils only	15.900

SUMMARY.

The writer and his assistant, Mr. W. L. Irwin, to whom he is greatly indebted for much of the routine work herein reported, do not feel warranted in drawing any general conclusions from the experiments until a great many more of the same general nature have been run on these oils. This we propose to do as soon as possible, hoping to get a sufficient number of close checks to warrant some authoritative statement.

The whole investigation has proved most interesting, and we would be glad to have others take up the same task. The routine work is taxing, but we believe that the ultimate findings will be worth the effort.

MAKING GOOD.

Making good—business—is a fight, just like life—a continual struggle. Struggle there always has been and always will be—there must be. Depend upon it and prepare yourself for it, the struggle will be always. Life is activity. When you throw your efforts and your mental attitude in neutral, you'd better call for the undertaker.

Since YOU are all that you have got, you have got to be satisfied with yourself and take yourself for better or for worse and you'd better prepare yourself physically, mentally and morally for the battle.

You can only do this by association with people from whom you can learn something—not from people you have to tell things to. You've got to take care of yourself physically as well as mentally and you will not be physically fit if you have hobnobbed with a lot of going-to-bes and paraded down Main Street all evening in search for a skirt. Then when you get out the next morning, if you do get out, you can't expect to convince a man who takes care of himself that you are right. Better leave those fellows alone; they'll bring you down to their level. If you never see them again that will be soon enough!—*Exchange.*

THE COMMUNITY OF INTEREST OF THE DRUG TRADES IN FOOD AND DRUG LEGISLATION.*

BY J. H. BEAL, URBANA, ILL.

I deem it a considerable privilege to be the bearer of a message of greeting and good-will from the oldest to the youngest pharmaceutical organization of national scope.

For sixty-five years the American Pharmaceutical Association has upheld the best traditions of professional pharmacy, and has justly earned the respectful consideration of every one connected with any division of the many-sided business or art of producing and distributing drugs and medicines.

When the American Pharmaceutical Association was founded the retail apothecary was the principal manufacturer of the medicinal products which he dispensed, and there was no necessity for the separate existence of such a society as yours.

Since that time, and through the operation of causes which I need not discuss, the generalized occupation of the old apothecary has been broken up into groups of specialized occupations, each with an art and technic of its own, and the principal business of the retail pharmacist of the present day is to distribute the products maufactured by others, at best supplemented by the manufacture of simple stock preparations and the dispensing of extemporaneous preparations on physicians' prescriptions.

To attempt to strike a balance between the respective loss and gain of this departure from the practice of the ancient apothecary would require more space than is at my disposal. Whether for good or ill, the change has been made, and we must deal with the situation as it exists.

The American Pharmaceutical Association early recognized the tendency of pharmacy to split up into groups of specialized functions, and, instead of seeking to retain a monopoly of control, has generously encouraged the formation of corresponding special organizations.

The separate existence, then, of such associations as yours, of the National Wholesale Druggists' Association, of the National Association of Retail Druggists, and of other similar national bodies is simply the practical application of the broad and liberal doctrine of the American Pharmaceutical Association; namely, that the special interests of the several divisions of pharmacy can best be conserved by independent organizations especially devoted to such purposes.

The American Pharmaceutical Association is thus fairly entitled to be regarded as the mother association of our national pharmaceutical organizations, and as such retains a lively interest in the welfare and development of each of her children.

The delegation of special interests to the care of special organizations did not, however, complete the mission of the American Pharmaceutical Association. On the contrary, its mission and the reasons for its existence are more important than ever before. Its annual conventions constitute a general congress of pharmaceutical interests, where those who separately represent the various sections of the drug trade can meet upon common ground for the discussion of matters of common concern.

* Address as delegate from the American Pharmaceutical Association to the National Association of Manufacturers of Medicinal Products, New York City, February 3, 1916.

It is the nexus which binds the separate divisions of pharmacy into one family group. It represents and aims to defend the solidarity of pharmacy, or the community of interest of all who are connected in any capacity with the business of manufacturing and supplying medicinal products.

The principal message which I bring from the American Pharmaceutical Association is to urge your fullest recognition of this community of interest of the family group which that association has so long defended, and that you shall, as far as possible, so order your business policies and other activities as to contribute to the professional and commercial prosperity of the whole confraternity of pharmacy.

The Unique Position of Drugs and Medicines in the Popular Mind.—If you were disposed to forget the community of interest of all of those who have anything to do with the manufacture or purveying of drugs and medicines, a list of the bills introduced at a single session of Congress or at a single session of a state legislature should be sufficient to quicken your memory and enlighten your understanding.

The day has apparently passed by when it was necessary only to provide for the scientific organization of your laboratories, and to maintain an efficient system for the distribution of your products. To-day a third necessity exists, and that is to provide machinery and methods to prevent yourselves from being legislated out of business through the efforts of those good-intentioned but poorly-informed persons whose desire to reform the business of other people is usually in direct proportion to their ignorance of the subjects they propose to regulate.

One reason, and perhaps the principal reason, for the constant menace of adverse legislation grows out of the peculiar position given to drugs by the popular mind, and the consequent disposition to deal with them as if they were altogether separate and apart from other things of utility.

The normal and useful employment of drugs may outmeasure a thousand-fold their abnormal or hurtful employment, but when legislation is proposed their common and proper uses are overlooked and only their occasional evil uses are remembered. In dealing with other material agents there is usually a disposition to discriminate between the good and the bad, but legislation with respect to drugs is usually directed upon the theory that they are either always bad, or always especially liable to be put to bad uses.

The law very properly prohibits the sale or carrying of daggers and other deadly instruments of the same character, but places no restriction upon the manufacture and sale of edged and pointed tools normally intended for lawful uses, even though they might be used for lethal purposes; nor does the report of a homicide with a butcher's cleaver or of a suicide with a pair of shears produce a demand for special legislation restricting the manufacture and sale of these useful implements. In the case of drugs, however, the disposition is exactly the opposite. Let there be a sensational newspaper report of a homicide or suicide committed with the aid of a drug, and immediately there is a flood of bills to prohibit its sale, or to subject it to such restrictions as amount practically to prohibition.

Moreover, this terror of drugs seems to attach to the name rather than to the things themselves: call the drug a fertilizer or paint, or by some other name indicating its use in the common arts or industries, and its deadly significance begins to fade out of the lay mind. When poison legislation is pending, if the point be made that the substance the sale of which is to be restricted is largely used in the arts or industries, the usual course is to amend the bill so as to exempt its sale

by tons for industrial employment, and to confine the restrictions to its sale in the drug store, where it is dispensed by grains and ounces. And this restriction of its sale by the druggist who knows how to handle the substance safely, and its unrestricted sale by those who know nothing of its properties, are considered to be a quite proper safeguarding of the public welfare.

The host of ordinances and bills directed against mercury bichloride a year or so ago will illustrate this thought. One of these was a bill introduced into the United States Congress, proposing extremely severe restrictions upon the dispensing of mercury bichloride by doctors and druggists, but placing no restrictions whatever upon its sale or use by other persons. Seemingly it never occurred to the sponsors for this bill that the sale of mercury bichloride under other names or by people unfamiliar with its qualities might be dangerous to the public health.

Drugs should not be discriminated against in legislation simply because they are drugs, and restrictions upon their sale should bear a just proportion to their wrongful use. If a drug is properly employed a hundred thousand times for every time it is wrongfully employed, restrictions upon its sale should be neither greater nor less than upon any other object or thing that has the same ratio of proper to improper use.

Legislation by Subterfuge.—A fondness for law-making has always been a characteristic of the American people, and during the past few decades this disposition has developed into a veritable mania. The newly-elected member of a legislative body says to himself, "What am I here for if not to make laws?" and straightway consults the dictionary or encyclopædia for new subjects to regulate. His constituents apparently have the same conception of his duties, and as a consequence the Congress, state legislatures and city councils are fairly choked with bills to amend old laws or ordinances, or to create new ones, and intended to regulate every conceivable subject.

When the ordinary legislative powers of our written constitutions are not broad enough to meet the demand, we proceed to expand them by subterfuge, or by legislating around the constitutional limitations. That is to say, we frame our legislation in such form as to bring it *nominally* within one section of the constitution and thereby accomplish ends or reach results expressly prohibited by other sections, or so as to accomplish that which no section of the constitution directly authorizes to be done.

No doubt some of the laws which are constitutional in form, but which in fact were expressly designed to accomplish results not contemplated by our written constitutions, are very desirable laws. An example of such legislative subterfuges is the recent Harrison law, or the federal law which professes to levy a tax upon the business of dealing in certain narcotic drugs. In form it is a revenue measure; in fact it is a police measure disguised by the levy of a nominal tax, and without the intra-state policing power which it gives to the federal agents, under the pretence of tax collection, would not be worth the paper it is printed upon as a means of regulating the traffic in narcotic drugs.

The united drug trade more than any other one instrumentality—perhaps as much as all other instrumentalities combined—was responsible for the enactment of the Harrison law, and it is a striking testimonial to the public spirit of the drug trade that it deliberately sought this legislation and has cheerfully accepted the burdens and losses which it imposes for the sake of the general public good. The results of the law have been altogether beneficent, but the fact remains that it is a legislative subterfuge, a law specifically framed to bring it within the powers of Congress to collect a revenue which of necessity must

be much less than the cost of collection, and the real intent of which is to regulate the distribution of narcotic drugs within the territorial limits of the several States.

The beneficial effects of the law have been all and more than were anticipated, and its repeal by Congress or its nullification by the courts would be a public calamity. Nevertheless, it must always be a matter of regret that so good a measure with so good a purpose could be enacted only by dodging the evident intentions of the federal constitution.

If constitutional intentions can be evaded or circumvented for beneficent purposes, may they not also be evaded for purposes the reverse of beneficent? All human experience shows that corruptions of free government have always begun in this way, and the problem is one which we would do well to ponder.

Legislation by Administrative Action.—Another species of legislation probably not contemplated by those who devised our system of constitutional government is the making of laws by the fiat of those chosen to administer them.

That administrative officials should be clothed with reasonable discretionary powers in order to make the law effective will not be seriously questioned, but we of the drug trade have seen this discretion used to extend the law far beyond the intention of the law-making body. Under the name of rules and regulations both new prohibitions and new commandments are read into the statute, and under the pretence of interpretation meanings and effects are added that could not have been within the mind of the author of the law nor within the intention of the legislative body which enacted it.

The attempt to read into the written law that which the administrative official thinks ought to be there in place of what is really there is not a new thing in history, but is more vexatious at the present day for the reason that the subjects of modern legislation are far more technical and vastly more complicated than they were a generation ago.

Almost invariably an official justifies the exercise of arbitrary power by pleading that his efforts are directed solely for the public good. Demagogues are smart people and well know how to pick the subjects of experiment so as to appeal to popular prejudice and command popular sympathy. If they want to attack an entire class of medicinal preparations, they do not select a representative member of the class, but the worst example they can find, knowing that if their action is sustained it can be used as a precedent for attacking all other preparations coming under the same *legal category*, although they may be quite different in other respects and devoid of offensive qualities.

The important matter in all such cases is not the particular object which is made the excuse for the exercise of arbitrary power, but the illegal and unconstitutional method employed. If an individual can be denied the right of trial by jury simply because he is a common drunkard and a known derelict, then it will not be long until the rights of decent citizens will be invaded in a similar manner. Small invasions of rights, if unresisted, grow into greater ones. If we do not resent the arbitrary exercise of power with respect to some medicinal preparation which does not quite meet our standard of professional ethics we may live to see the day when the same arbitrary power will be applied to our own more ethical products.

Let us not be deceived by the specious plea of the public good when it is used as an excuse for the exercise of unauthorized official action. The highest public good is that which can be obtained through the operation of well-considered laws, enacted in obedience to enlightened public sentiment, and construed and administered in strict accordance with the intentions of the legislature.

Labels and Therapeutic Properties.—I do not need to cite to a company of manufacturers of medicinal products any illustration of the perversion of the law's meaning by administrative action, or by a forcible reading into the law of some official's personal theories.

I feel that I am well within the bounds of verity and moderation when I assert that, under present conditions, the pharmaceutical manufacturer, after availing himself of the best scientific information obtainable, and after taking the advice of the best legal talent he can procure, cannot label his products with the certain assurance that when they are placed in interstate commerce he will not be haled into a federal or state court, charged with selling an adulterated and misbranded product.

When such a condition exists, there is something wrong, either with the law or with the method of its administration. That a manufacturer or dealer, acting in entire good faith and utilizing every available source of information, should not be able to insure himself against prosecution is a situation never contemplated in the passage of the food and drug laws, whether state or federal.

Those of you who have carefully followed the rulings of administrators of the food and drug laws and the decisions of the courts will have discovered before this that the contention as to the misbranding of a medicinal product is not infrequently a dispute regarding grammatical construction, or a conflict of therapeutic opinion rather than of law or of fact.

As manufacturers of medicinal products you are in a position to know that in the present stage of medical science the therapeutic value and use of a drug is largely, or mainly, a matter of opinion based upon clinical observation, and that therapeutic opinions differ widely and radically, not only among the different so-called schools of medicine, but among physicians of the same school.

This is true of not merely a few drugs and drug products, but of a majority of them, and especially of those which do not show the presence of constituents of pronounced physiological activity. There is perhaps no single drug known to the profession whose value is so thoroughly established that it has not been denounced either as without value or as dangerous by practitioners of experience and repute, or has not been condemned by works on materia medica and therapeutics which are accepted as authoritative by large numbers of the medical profession. The manufacturer and dealer are not interested in these professional controversies, but claim the right to supply each or all of the contending factions, and the general public, with their favorite remedial agents prepared according to the best dictates of pharmaceutic science.

Possibly as part of its inheritance from its ancient affiliation with theology, the medical profession still retains something of a spirit of intolerance, so that certain factions or schools are inclined to deny to their competitors the same freedom of opinion and practice which they claim for themselves, and, unable to prevail by force of argument, endeavor by force of law to suppress the opinions with which they do not agree. If our labels conform to the therapeutic opinions of one school or faction, then the products are considered to be misbranded, and consequently false or fraudulent, from the standpoint of those who hold to an opposite or different opinion.

Laboratory experiments with animals have thrown a small degree of light upon the properties of drugs, but the light is still wavering and uncertain, and in some respects the results of tests upon animals are equally as conflicting and contradictory as the results of clinical observation.

The makers of the food and drugs law never intended to interfere in the

conflict of medical opinion, or to place the stamp of official approval upon the medicines of one school or set of physicians in preference to others, or to restrict the free manufacture and sale of medicinal agents representing every shade of medical opinion.

The administrator of the law may not consciously intend to be a partisan, but this is exactly what he becomes when he undertakes to decide that a medicinal product is misbranded for no other or better reason than that its label or literature makes a therapeutic claim not accepted by the particular school or class of physicians with which he affiliates. If, for example, he rules that a label is incorrect because it ascribes to a preparation of cactus or of echinacea the medical properties which thousands of competent and successful physicians claim for these drugs, which claim he does not himself accept as true, and that the preparation is therefore falsely and fraudulently misbranded, he is guilty of an unwarranted interference with the freedom of medical practice and with the rights of manufacturers and dealers to supply physicians and the public with the remedial agents in which they have confidence.

The proper attitude, and the attitude which I believe the American people endorse, in so far as they are informed upon the matter, is that a preparation is not misbranded when either the label or the accompanying literature describes it as efficient for the treatment of an affection, or class of affections, in fair accordance with the views of any considerable number of practitioners of any school of medicine, even though its efficiency for such purpose be stoutly denied by other schools or by other practitioners.

If physicians cannot agree among themselves as to the therapeutic usefulness of drugs, how in the name of logic and common sense can food and drug officials, or even judges and juries, be expected to decide correctly?

Our works on materia medica are full of drugs once popular but now generally abandoned, and of drugs once considered of no value but now popular and largely used.

The history of the use of ipecac is a case strikingly in point. This drug was originally introduced as a remedy for dysentery, as denoted by its early name of *radix antidysenterica*, but gradually lost its repute and passed nearly out of use for that purpose, except with some so-called "irregular" practitioners and a few proprietary remedies. Within recent years it has been found that its alkaloid emetine is by far the most efficient remedy known for certain forms of dysentery, and the drug is now so popular with the medical profession that it is becoming difficult to supply the demand.

If one of the above-mentioned proprietary medicines had been seized during the period when ipecac was in disfavor for the treatment of dysentery it would undoubtedly have been declared misbranded, upon the ground that it did not contain any ingredient capable of producing the effects claimed for it.

Does not this example—and it is only one of many that could be cited—show the frailty of that official cocksureness which undertakes to decide offhand as to the value or lack of value of medicinal preparations, in opposition to contrary opinions based upon observation and experience?

At some distant day we may be able to determine the therapeutic value of drugs by laboratory tests with some approach to the certainty with which we can determine their chemical constitution, but until that enlightened period arrives there can be no better warrant for legal interference with medical opinions honestly held than for legal interference with political and religious opinions.

In conclusion, whenever you exert your influence as an organization or as individuals to prevent oppressive legislation or unreasonable administrative action, in defence of the just rights of even the smallest retailer of drugs and medicines, you are helping to realize the great ideal of the American Pharmaceutical Association, and to defend the community of interest of which that association is the chief exponent.

On behalf of that association, and in my own behalf, I wish you a most successful convention, and one fruitful of good results, both for your own members and for the larger drug fraternity of which you are an important section.

DOPE LAW REDUCES SALE OF NARCOTIC DRUGS 80 PERCENT.*

The question as to whether the Legislative Committee of the Pennsylvania Pharmaceutical Association shall have a bill drafted providing for state anti-narcotic regulation to supplement the Harrison Federal Act and afford still further protection to the public will doubtless come up for discussion at the annual meeting at Reading this year, especially in view of the statements recently made in the newspapers that the number of drug *habitués* has not decreased.

Declarations have been made by the jobbing and manufacturing interests through whose hands these narcotic drugs originally pass that the total amount imported and sold has been reduced about 80 percent; therefore the conditions referred to must be local and not general.

As the Pennsylvania Pharmaceutical Association was prominently identified with the passage of the Pennsylvania Cocaine Law of 1909, one of the forerunners of the Harrison Act, and has energetically worked for years to aid in the passage of federal legislation, it gives the members much satisfaction to learn from the First Annual Report of the Internal Revenue Commissioner on the administration of the Harrison Act that out of 52,187 druggists registered in the United States under this act, only 216 violations of the law were reported, and most of these were of a technical character and not violations of the spirit of the law.

These figures show that over 99.6 percent of pharmacists are found to be complying with a law which, so far as they are concerned, is full of hardships, pitfalls, and arbitrary requirements. For instance, it is perfectly legal and proper to sell over the counter to any customer certain household remedies or medicines containing minute amounts of narcotic drugs too small to become habit-forming and specifically permitted by the exemption clauses of the act, but if a prescription is presented calling for any quantity, however small, of one of these preparations compounded with another medicine, that prescription is subject to all of the restrictions which a really habit-forming prescription calls for and therefore cannot be renewed.

The multitudinous records and reports and the extraordinary care which must attend all handling of narcotic drugs fall with greater force upon pharmacists than upon physicians.

As the primary object of the law is the benefit of the public, and as reports show that this object is being achieved, there is no disposition on the part of pharmacists to do more than protest against such inconsistent rulings as that of Treasury Decision No. 2213, the practical effect of which is explained above. The ruling should either be modified or withdrawn, or else all exemptions should be abolished. As the latter would necessitate the amending of the law itself, it would seem more practical to modify the ruling.

* This is copy Bulletin 2, issued by the Publicity Committee of the Pennsylvania Pharmaceutical Association; reference to this work is made in Editorial Notes.

MODERN METHODS.*

There is probably no other business that has undergone more changes in the last twenty years than the retail drug business, and in order to meet these changed conditions new methods are constantly being developed.

One of the first and most pointed aggressions was from the professional side in the rapidly-growing tendency of the physician to do his own dispensing.

Conditions, however, are far from being irremediable. Don't fight or slur the dispensing physician; get acquainted with him, use tact, interest him in your work. Convince him of your skill and integrity and knowledge of the goods you handle. The particular man does not buy ready-made clothing when he can find a dependable tailor and is sure of a fit. Just so the conscientious physician, assured that his prescription is safe in your hands, will not be tied to ready-to-use formulæ, and will appreciate your coöperation. Much is possible on these lines.

Another outlet for your professional knowledge and skill will be found in the compounding of preparations for the many emergencies of the household and farm. The field is sufficiently broad without attempting to compete and antagonize the doctor in the curing of physical ills. Demonstrated ability in these lines will create an increased confidence that will aid greatly in the building up of other departments of your business. The knowledge that any goods you prepare or recommend have quality and merit gives weight to your claims to dispense pure drugs, pure spices, pure soda water, or any other item that needs a backing of personal integrity. You can profitably become the expert professional adviser of a community in all matters involving chemical problems.

Expert analytical work is another field of growing importance. It is becoming the basis of modern diagnosis. It will put you in close touch with the physician, who will welcome trustworthy coöperation in this direction. Surely the pharmacist who considers the securing of a diploma, with the legal right to sell drugs, the *finis* of his technical education, and who is satisfied to limit its exercise to what few prescriptions may stray his way, has missed the inspiration of a high calling.

Aside from the above, we have other influences making decided inroads into the profession of pharmacy, not the least among these being the department store and the cut-rate chain store, with their deceptive bargain sales of the other fellow's preparations. Then the mail-order houses which have come into new life through parcel-post legislation and department regulations, not to forget the wagon peddler, who, it appears, cannot be eliminated in this State. Even the soda fountain, once never looked for outside of the drug store, now flourishes in the most unexpected places, cigar stores and billiard halls being some of the latest to adopt it. Seemingly there is no line in which there is not the sharpest competition to be met, and with it all there is no business so surrounded by legislative regulations and restrictions as the drug business in the State of Iowa.

Not only are our national or federal laws pertaining to the drug business numerous and exacting, but our State laws particularly are complex in this direction.

* Abstracted from an address by F. Junkerman, of the Churchill Drug Company, Cedar Rapids, Iowa, being one of a number of interesting addresses delivered January 18 and 19, and part of the "Short Course for Pharmacists" under the direction of the Iowa Pharmaceutical Association and the Department of Pharmacy of the University of Iowa. The value of this work for pharmacy can hardly be overestimated, and was prompted by the desire of the University to be helpful to pharmacists.

Among these are the Pure Food and Drug Laws, Insecticide Laws, Weight and Measure Laws, Narcotic Laws, Poison and Liquor Laws, and many others. It occurs to me that the value and efficiency of the pharmacist as he emerges from his course in our universities would be greatly enhanced by including in his studies the principal laws pertaining to his profession.

Is the druggist, then, waging a hopeless battle? Not by any means. The requirements of the profession insure a higher educational training to start with than will, on the average, be found in most any other line of business. And, furthermore, that training gives him from the start a standing in the confidence of the community which his competitors in other lines lack. With these advantages, he should readily hold his own if he has the foresight and adaptability to adjust his business to the changing conditions. This education, however, is purely scientific, and leaves untouched a large share of the problems of his future commercial activities.

Particular attention should be paid to the promotion of the many side lines which have proved so profitable in many localities where they have been given some thought, such as toilet articles, paints and wall-paper, stationery, sporting goods, photographic supplies, holiday goods, cigars, soda water, etc. In fact, up-to-date merchandise should be the keynote of every practical druggist, and without it the business under ordinary conditions would be unable to maintain itself. Much study and thought should be given these particular lines to see that the right ones to fit the locality are selected.

Purity and sanitation are the slogan of these days. The drug store, of all places, should emphasize these ideas. Cleanliness should be apparent from front to back, with ample light. The fixtures should be in keeping. Old-style counters should be discarded. The dark spaces underneath are apt to be a catch-all for rubbish and dirt. To sell goods, they must be displayed, and the fixtures should be selected with that end in view. And don't be afraid to take a lesson from the department store. Mark all goods displayed plainly, with the selling prices, otherwise your display loses much of its value.

Use the show window to its limit. How many people pass your store daily? By what other means can you reach the same number of people, and reach them as effectively, as by striking window displays frequently changed? Note the space provided for window displays in every modern building. Is that not evidence of the value now placed on them as a factor in making sales?

Service is another great factor in the drug business. You cannot be too particular about the service given. It is the making or the wrecking of the business. The services that the druggist renders without charge have provided the funny paragrapher with unending material. But don't let that worry you. That reputation for generous service is your biggest asset. Build on it, regardless of the few who impose, or who seemingly lack appreciation.

And your clerks! Note how the big business educates and trains them; how in certain stores, you can judge the policy and character of the management by the atmosphere—the subtle impression given by the service. In certain stores the service fairly inspires confidence and good-will. All your efforts to bring people to your store may be worse than nullified by poor service. When you have hired a clerk you have just begun. Neatness, alertness, patience, courtesy, tact in making suggestions—your standard in these matters will inevitably be reflected by your force. Personal example, as well as careful training, is essential.

The soda fountain and cigars—what other lines will bring customers so regularly and frequently into your store as these two? Here, also, the equipment

must be up-to-date. There are cases built now for cigars and tobacco that will harmonize perfectly with the modern sanitary fixtures, and they are equipped for the proper keeping of stock. As an advertising feature alone they are worth all they cost. And the fountain! The confidence of the community in your training to standards of purity brings this business naturally to your store. Thoughtful people will not go themselves, nor let their children go, where there is any question as to sanitary conditions or the purity of the products. The alpha of the fountain is neatness. The omega of the fountain is neatness. It is not a job for the kid who, between times, sweeps the floor and washes windows. It is a man-size job, and the more care and brains put into it the better it will pay. With the growth of the temperance sentiment and the knowledge of the purity and high food value of the products served at all first-class fountains, the possibilities of this business are just beginning to be realized. The modern fountain is built on labor-saving, sanitary lines. Only through grossest carelessness can it become unsanitary. There is no fixture that adds so to the beauty and attractiveness of the store.

In conclusion, permit me to offer a few practical suggestions on the business side.

With a jobber at your elbow, interested in your welfare, dependent for his success on the success of his customers, you have a friend worth cultivating. Get personally acquainted with him, and you will find your business relations moving more smoothly. See as frequently as possible what he has to sell. He knows what is new and salable, and can give you valuable pointers. He is interested in selling you, not only to-day but to-morrow, and he will not abuse your confidence, for he wants your good-will.

Be kind to the jobber's salesman. Take time to see the goods he has to show you. He usually carries only the latest and best. It will pay you to see what they are, even if you do not care to buy at the time. And if he is the right kind of a salesman, he can often give you good business ideas, for he constantly sees what a hundred or more druggists are doing; and he is interested in not only selling goods to his customers, but also in seeing them successfully disposed of, so that he can sell more.

Buy carefully; don't overload; the jobber is near. Let him carry the stock, and buy only as you need. A well-diversified stock will make you more money than you can save by buying heavily of staples, if by so doing you cramp your buying ability in other directions.

Beware of the salesman who comes never to return. His glittering promises, glowing prospects, and special discounts will not sell the goods. All he wants is the order. It would surprise you to know the amount of goods so bought that the jobber is solicited to help out with later on. A quantity discount is not profitable unless you can sell the goods and sell them quickly. The cost of carrying will soon eat up the extra margin. You could make a lot more with the same money in the same length of time by using it in taking advantage of cash discounts.

The neglect to take all cash discounts is a great mistake. This is one of the biggest and commonest profit-leaks. You can not afford it. Look over your bills, see how much it means and how little it would take to handle it. Even if you have to borrow money, it would pay you well to do it. It establishes your credit, without which you cannot conduct a successful business.

Above all, know your business from A to Z. Don't guess at anything. Take inventory at least once a year, and analyze the figures. Find out just what it is costing you to do business, and figure the margin of profit accordingly. Keep the records of each department of your business distinct so far as possible. It will

show you where and when a boost is needed. Drugs at bargain prices do not inspire confidence.

After your inventory is completed, see to it that you are properly covered by an adequate amount of insurance. To sum it up, a pharmacist, to meet the competition of to-day, must study business conditions and methods just as carefully and thoroughly as the principles of his profession, and it pleases me to note that your University appreciates this condition, as is evidenced by the program of this course.

AERIAL OR GASEOUS DISINFECTION.*

BY SEWARD W. WILLIAMS, PH.C., F.C.S.†

The term aerial disinfection is employed to mean the use of the air as a vehicle for diffusing, to all exposed surfaces of the room and its contents, a gaseous germicide. The disinfection of the air itself, more or less loaded with germ-laden dust particles as it usually is, may be regarded as incidental, just as would be the case with water used in making a disinfectant solution. Air and water are the natural agencies for cleansing an infected apartment. Why should we not render the former germicidal as well as the latter? A room, subjected to gaseous disinfection and aired, should be a safer place for a scrub woman, paperhanger, or painter to work in than if not previously fumigated, and these workers [1] deserve consideration as well as future occupants.

The subject is timely because of the recent decision of the New York City Health Department to abandon gaseous disinfection after most of the communicable diseases.

As fumigating devices and materials are handled by the pharmacist, and as, in his position of "Chemist to the Medical Profession and the Public," he is likely to be asked numerous questions about gaseous disinfection, an effort is here made to give him an idea of its present status among sanitarians.

FACTS ABOUT FUMIGATION IN NEW YORK CITY.

The following letter was addressed to Dr. M. C. Schroeder, bacteriologist, New York City Department of Health:

As the number of cases of measles, for an equal period of time before and after abandoning fumigation in Manhattan, is given as evidence that fumigation did no good, the following questions suggest themselves:

1. Did the board always fumigate after *measles*, during the period in which fumigation was generally practised?

2. Was the method of fumigation as efficient as it could easily have been made with more disinfectant material?

* Read before Chicago Branch of the American Pharmaceutical Association, November 16, 1915.

† Scientific Department, Bauer & Black, Chicago.

[1] Even if we had tests for determining natural immunity to the principal communicable diseases, such as the recently-introduced Schick test for determining susceptibility to diphtheria, no one would probably think it practical to apply them to those about to clean up infected apartments.

3. Is the viability of the measles germ such as to make it a fair basis for comparison?

4. Was the process, given in your article in the Journal of Public Health of August, 1912, used up to the time fumigation was abandoned? If not, what process was employed at that time?

Dr. Schroeder (under date of October 7, 1915), replied as follows:

1. Yes.

2. Method of fumigation was adequate. If penetration was desired, more fumigation material would have brought about this result.

3. Too little known about this organism to make it of use as a basis of comparison.

4. There was no change made in the quality or quantity of the disinfectant or in the time period which was deemed necessary.

The quantities used were:

Paraformaldehyde	1 oz.
Potassium permanganate	2½ oz. (medium-sized crystals)
Water	3 oz.

The time allowed for disinfection was four hours. The testing organism was *B. pyocyaneus* on cotton threads enclosed in sealed tissue paper envelope and suspended at least four feet above and six feet distant from the fumigating pan.

It should be noted (*a*) that, in using one ounce of paraformaldehyde (solid formaldehyde) with permanganate, a part is consumed in the reaction, so that less than one ounce is generated as formaldehyde gas; (*b*) that Dr. Schroeder found that with this small amount the gas went through an envelope and killed the test organism in an exposure of only four hours; and (*c*) that he says greater penetration would have resulted from using more formaldehyde.

FORMALDEHYDE GAS DISINFECTION IN CHICAGO.

The following letter from Dr. Spalding and instructions for fumigation by Dr. Rawlings explain the present method of the Chicago Department of Health:

. . . . In reply to your letter of October 18, I am attaching hereto our method for gaseous disinfection.

We require that the rooms be sealed and articles of wearing apparel, etc., be thoroughly exposed to action of the formaldehyde gas.

HERMAN SPALDING,
Chief, Bureau of Medical Inspection.

When all the pans used for the space to be disinfected have been prepared, proceed as follows:

If Paraform is Used.

Place in mixing pan—

Chlorinated lime	60 grammes
Paraform	30 grammes

Mix *quickly* and add (pour over) 90 Cc. of water *immediately*. The mixture of chlorinated lime and paraform will commence to react even before the addition of water Therefore, it is necessary to work rapidly.

If Formalin is Used.

Place in mixing pan—

Chlorinated lime	60 grammes
Add water	20 Cc.

Mix thoroughly.

Add formalin	75 Cc.

over the moistened lime.

In performing disinfections, material should be added to the pan farthest from the exit and then in succession to the others in the order of distance from the exit. Before mixing ingredients, remove all surplus material and equipment from the room.

WARNING: Quarantine officers must follow carefully the method outlined. It is very easy to cause injury to woodwork, fabrics, etc., if any of the disinfecting material comes in direct contact with any articles or materials in the premises under disinfection. Chlorinated lime will be furnished in one-pound cans with a small pry-up lid at the top. Employees must use care in handling this lime. If any of it gets on clothing or leather, these articles will be injured by it.

The present method will be used as long as the quarantine officer has a supply of permanganate of potash. After supply of permanganate of potash is exhausted, the quarantine officer will use the paraform-lime method. When the supply of paraform is exhausted, the quarantine officer will then use the formalin-lime method.

By direction of the Bureau Chief,

I. D. RAWLINGS, M.D.,
Asst. Chief, Bureau of Medical Inspection.

In their standard work on "Practical Sanitation" published last year, Doctors Gardner and Simonds, speaking of "solid formaldehyde," say: "Used with moisture in the proportion of one ounce per 1000 cubic feet, it is very convenient and effective."

With so much evidence that one ounce kills the test organisms, it seems reasonable to conclude that two ounces would provide working margin enough to cover difference in resisting power of pathogenic germ life and some variation in the tightness of the room and condition of atmosphere; it being understood that formaldehyde should be used in fairly warm, humid air for best results.

QUANTITY OF PARAFORM ADVISED BY U. S. GOVERNMENT AUTHORITIES.

An expert of the Public Health and Marine Hospital Service of the United States (Bulletin No. 42, p. 13), in speaking of the use of paraform, says: "The paraform is placed in the cup and a flame applied underneath. The flame should not be too strong, for should the paraform ignite no formaldehyde gas will be produced and there will be no disinfection. The space to be disinfected should be tightly closed and all cracks pasted up. For each 1000 cubic feet of air space two ounces of paraform should be used. The time of exposure should be about four hours. If necessary the flame under the utensil containing the paraform can be left burning during the time of exposure."

The formalin-permanganate method will be treated on another page in connection with the formalin-dichromate process.

TWO QUESTIONS INVOLVED.

Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College and author of the standard work on "General Bacteriology," replies to a letter of inquiry as follows:

In regard to the efficacy of room disinfection I hope you will pardon me for not replying in detail to your *questionnaire*. It is my feeling that a subject of this sort cannot be settled by a majority vote. There are two questions involved: (1) The efficacy of gaseous disinfectants, such as formaldehyde, in destroying bacteria; and (2) the efficacy of room disinfection in preventing the spread of certain infectious diseases. The latter question, at least, demands more study, and it seems to me that the gathering of evidence is needed more at present than the expression of opinion.

In his "General Bacteriology" (1915 edition) Dr. Jordan says: "If the solid polymer of formaldehyde is heated, not ignited, formaldehyde is evolved. A lamp has been especially constructed for this purpose, and with the use of tablets or pastilles of paraform affords an easy and effective means of disinfecting small rooms (Schering system)."

As pharmacists, both retail and manufacturing, our part is fairly done if we supply fumigators which actually kill disease germs. But as citizens we are interested in knowing how much benefit the community derives from gaseous disinfection so that we can give trustworthy answers to other citizens who, as customers, ask for information. Good business and good citizenship run parallel. At least they should; and will ultimately.

Dr. Victor C. Vaughan, in an address last summer at Lapeer, Mich., on "The Doctor's Dream," looked forward to the time when the province of the medical profession will be principally to prevent, instead of cure, disease.

Surgeon-General Gorgas, who has worked such wonders in practical sanitation in Cuba, the Canal Zone, and elsewhere, lays special stress upon getting at and remedying the underlying causes of disease. In a letter on another page he says: "I feel confident that the most important sanitary measure that any community could adopt would be a taxation on land values." As citizens we should inform ourselves regarding the merits of this statement, made by an authority who has a better right to express himself on a question of practical sanitation than any one else on earth.

To secure the best available information from practical sanitarians, seven questions were addressed to each State Board of Health. When it is considered that State health officers have had access to practically all the evidence there was, it will probably be admitted that their expressions of opinion come very near to being a presentation of evidence up to date.

The answers received are here classified alphabetically by States, under each query:

SYMPOSIUM OF HEALTH OFFICERS.

1. *After What Diseases Do You Think It Desirable To Fumigate?*

ARIZONA.—Governor Geo. W. P. Hunt, President State Board of Health, Phœnix: . . . Your form inquiry, regarding aerial disinfection, is being referred to Dr. R. N. Looney, State Superintendent of Public Health, so that due attention may be given to the somewhat technical inquiries which you have presented. . . . R. N. Looney, M.D., Phœnix, answers: All contagious or infectious diseases.

ARKANSAS.—C. W. Garrison, M.D., State Health Officer, Little Rock: After Asiatic cholera, acute anterior poliomyelitis, epidemic cerebrospinal meningitis, diphtheria, leprosy, measles, plague, scarlet fever, smallpox, tuberculosis, and whooping-cough.

DISTRICT OF COLUMBIA.—Wm. C. Woodward, M.D., Health Officer, Washington, D. C.: After yellow fever, to destroy mosquitoes; after plague, to destroy rats and fleas; and after typhus fever, to destroy lice. Premises, or parts of premises, that may reasonably be believed to be infected, should be *disinfected* after exposure to Asiatic cholera, smallpox, leprosy, plague, glanders, scarlet fever, diphtheria, epidemic cerebrospinal meningitis, anterior poliomyelitis, and communicable form of tuberculosis. Whether this disinfection shall be by mechanical methods plus the use of germicides in solution, or by fumigation alone, or by any combination of these, depends upon the circumstances of each individual case. Mechanical methods of disinfection—that is, thorough mechanical

cleaning—plus the use of germicides in solution, undoubtedly represent the most effective way of disinfecting. When this method cannot be satisfactorily employed, fumigation may well supplement it.

FLORIDA.—Joseph Y. Porter, M.D., State Health Officer, Jacksonville: After none whatever. We advise, as a routine procedure, boiling of clothing, bedding, dishes, and other articles used by the patient, and a thorough mechanical cleansing of the infected quarters; followed by free sunning and airing for several days.

IDAHO.—W. R. Hamilton, M.D., member and ex-president of Idaho State Board of Health, Weiser: Scarlet fever, measles, variola, tuberculosis, diphtheria, infantile paralysis, meningitis, etc.

ILLINOIS.—C. St. Clair Drake, M.D., Executive Officer State Board of Health, Chicago: Probably smallpox and tuberculosis, if any. As a matter of enforcing general airing of infected premises, however, liberation of strong gases is important. Free airing, thorough washing, and sunshine will do.

ILLINOIS CENTRAL R. R.—A. E. Campbell, M.D., I. C. Health Officer, Chicago: Pulmonary tuberculosis, smallpox, scarlet fever, measles. As we do not know the cause of the last three, I favor thorough fumigation until we do.

INDIANA.—J. N. Hurty, M.D., Phar.D., Secretary State Board of Health, Indianapolis: Personally, I have very little faith in disinfection. At one time I was strongly in favor of thorough disinfection of all infected premises, but my experiences have been corroborative of those of Dr. Chapin and other writers upon the subject. It may be that if disinfection is perfected and made better different results would be obtained. If we are to disinfect at all we should disinfect after all infectious diseases.

KANSAS.—O. D. Walker, M.D., President State Board of Health, Salina: All infectious and contagious diseases.

LOUISIANA.—Oscar Dowling, M.D., President State Board of Health, Shreveport: For over two years the Board of Health has been making investigations relative to fumigation and we are going to get out a pamphlet on the subject some time in the near future, and we shall be glad to send you a copy.

[The following quotation from pages 59 and 62 of the 1911 edition of "Sanitary Code State of Louisiana" (the latest obtainable) will give an idea of what has been the attitude of the board toward formaldehyde fumigation and the fomite theory:

"When a patient recovers from pneumonia, the room must be thoroughly fumigated with formaldehyde, not less than 12 ounces of formalin per 1000 cubic feet of air space, and the floors scrubbed with lye soap and the walls and woodwork wiped with a cloth wet with a 2 percent solution of carbolic acid. All washable fabrics that have come in contact with the patient must be boiled."

Section 159 reads:

"The sleeping apartments of tuberculosis patients must be thoroughly disinfected at least monthly; and on the death or removal of the patient, re-disinfected; if, in spite of the thorough disinfection and renovation, new cases should arise in a house that has been occupied by a consumptive, the premises may be condemned and destroyed by the State Board of Health whenever it seems advisable so to do."

Section 160 says:

"The sale or donation of clothing, bedding or other objects which have been in use by consumptives, or others suffering from any contagious or infectious disease, is prohibited, unless accompanied by a certificate that the same have been disinfected under the supervision of the Municipal or Parish Health Officer." W.]

MAINE.—A. G. Young, M.D., Secretary State Board of Health, Augusta: I do not wish to answer this question now. I am formulating new rules for submission to the Board.

MARYLAND.—John S. Fulton, M.D., Secretary State Board of Health, Baltimore: With some reluctance, I am making tentative answers to your inquiries. This whole matter of disinfection is in the melting pot and the form in which you have put your seven questions shows very clearly which side of the contest you have taken up. Personally, I do not care about the use of the word "fumigation," or about the use of the term "aerial disinfection." This business of public hygiene is in eternal oscillation, and we are probably right in describing the limits of oscillation as "extreme."

Substituting the word "disinfect" for the word "fumigate," I reply that terminal disinfection is done in Maryland after tuberculosis, scarlet fever, diphtheria, smallpox, and some other acute infectious diseases.

MICHIGAN.—Victor C. Vaughan, M.D., Ph.D., LL.D., Ann Arbor, President State Board of Health, Dean University of Michigan Medical School, President American Medical Association (1915), etc.:

Dear Williams:—I have not answered your questions for the very simple reason that it would take a volume to do so. I should want to give a great deal of time and attention to the matter and look up much research work before I answered your questions.

[Looking back to nineteenth century student days at Ann Arbor, when the writer enjoyed the privilege of being in some of the good Doctor's classes, it is hard to realize that the Professor (*mirabile dictu*) is perhaps a bit puzzled himself. Nothing could better emphasize the fact that doubt attaches to many theories. No better backing is needed for the sanitarians who prefer to remain on the safe side until these doubts are removed. W.]

MINNESOTA.—H. M. Bracken, M.D., Secretary and Executive Officer State Board of Health, St. Paul: None under proper conditions. Our circular on disinfection sets forth the views of the Minnesota State Board of Health to some extent. These views are, in effect, that a good housecleaning is better than the ordinary attempts at disinfection by means of the use of gaseous disinfectants.

MISSOURI.—G. B. Schultz, M.D., President State Board of Health, Cape Girardeau: Tuberculosis, smallpox, measles, diphtheria, erysipelas, various cocci infections.

NEBRASKA.—E. Arthur Carr, M.D., President State Board of Health, Lincoln: Tuberculosis, scarlet fever, smallpox, erysipelas, diphtheria, epidemic cerebrospinal meningitis, etc.

NEVADA.—Mark F. Boyd, M.D., Pathologist and Bacteriologist University of Nevada Hygienic Laboratory, Reno: Dr. W. H. Hood, President of our State Board, has turned over to me your letter with request that I answer it. Fumigation after the commoner infections apparently does not materially decrease the incidence of these diseases in communities where the practice has been in use, as compared with their incidence following the discontinuance of terminal fumigation. In these diseases, I think that terminal fumigation might be discontinued without any harm. At the best, it is only a weapon of exceedingly slight service, and attention is too apt to be exclusively directed to it to the neglect of more important prophylactic measures. With certain exotic diseases, such as plague and typhus, it assumes a rôle of greater importance.

NEW YORK.—F. M. Meader, M.D., Albany, Director Division of Communicable Diseases, State Department of Health: After communicable diseases when

soap and water cannot be obtained. Particularly rooms recently vacated by a person acutely ill with the disease.

Joseph J. O'Connell, A.M., M.D., Rosebank, Health Officer of the Port of New York: I think it desirable to fumigate after all communicable diseases. I know that there has been much said recently by some sanitarians as to the uselessness of disinfection, but until the causative organisms of some of the most common of our infections have been at least isolated and identified, I cannot bring myself to the conclusion that it is scientific to abandon measures which we know to be fatal to some of the pathogenic organisms that have been identified and are at least unfavorable to the growth of nearly all of such. Two years ago Dr. C. V. Craster, a bacteriologist in this service, did some experimental work in our laboratory at my direction and the report of his experiment you will find on pages 90 *et seq.* of the annual report of this department for the fiscal year ending September 30, 1913, a copy of which I am sending to you under separate cover. You will note that in his work he succeeded in destroying some of the organisms and that the sulphur dioxide fumigation inhibited the development of such of the organisms as were not killed. Fumigation is unfavorable to the growth of pathogenic organisms and is fatal to some of them. Consequently, while it may not be a complete protection, it is a protective measure of great value, reducing the danger of infection where it doesn't entirely eliminate it. I think it would be dangerous if conclusions were too hastily drawn from the action of the New York City Health Department in abandoning the practice of fumigating rooms after cases of communicable disease. The fumigation of living quarters in a congested city is very difficult. The mere direction to the family of the patient to burn sulphur or generate formaldehyde gas in the room lately occupied by the sufferer from an infectious disease was of course without effect. There are immense practical difficulties in the way of a proper fumigation of domiciles, particularly in the congested sections of a city, and this consideration was doubtless determinative with the New York Health Department.

Dr. M. C. Schroeder, M.D., New York, Bacteriologist New York City Department of Health: The New York Department of Health fumigates with sulphur after Brill's disease, typhus, smallpox.

New Mexico.—L. G. Rice, M.D., President State Board of Health, Albuquerque: All contagious diseases, especially smallpox, diphtheria, tuberculosis and scarlet fever.

North Carolina.—J. Howell Way, M.D., President State Board of Health, Waynesville: Scarlet fever and tuberculosis.

Ohio.—E. F. McCampbell, Ph.D., M.D., Secretary and Executive Officer State Board, Columbus: Terminal disinfection is required by the Ohio State Department of Health following smallpox, diphtheria and scarlet fever. Its use is recommended following acute poliomyelitis and epidemic cerebrospinal meningitis.

Ontario (Canada).—J. W. S. McCullough, M.D., Chief Officer of Health, Toronto: All communicable diseases.

Oregon.—Calvin S. White, M.D., State Health Officer, Portland: Smallpox, chicken-pox, scarlet fever and epidemic "la grippe."

Pennsylvania.—Samuel G. Dixon, M.D., Commissioner Commonwealth of Pennsylvania Department of Health, Harrisburg: We are using formaldehyde gas for disinfecting purposes after all communicable diseases except those which are animal in type.

S. Solis Cohen, M.D., Professor of Clinical Medicine, Jefferson Medical

College, Philadelphia; Physician to Philadelphia General and Jefferson Hospitals: All of the so-called contagious diseases as distinguished from those which although infectious are not transferred by contact or by fomites—thus after smallpox, measles, scarlatina, diphtheria, tuberculosis, but not after typhoid fever or malaria.

SOUTH DAKOTA.—David L. Rundlett, M.D., Sioux Falls (replying by request of Dr. L. G. Hill, President State Board): In a general way, after all contagious and infectious diseases, viz.: smallpox, chicken-pox, epidemic cerebrospinal meningitis, acute anterior poliomyelitis, diphtheria, erysipelas, measles, pneumonia, scarlet fever, tuberculosis (lungs), typhoid fever, whooping-cough, and some of the diseases common to both man and beast, as, anthrax and glanders.

TENNESSEE.—Ambrose McCoy, M.D., Jackson, President State Board of Health: Scarlet fever, diphtheria, smallpox, tuberculosis, cerebrospinal meningitis.

UTAH.—T. B. Beatty, M.D., Secretary State Board of Health, Salt Lake City: Scarlet fever, smallpox, tuberculosis and possibly diphtheria.

WISCONSIN.—C. A. Harper, M.D., President State Board of Health, Madison: I desire to state that I believe in aerial disinfection as a factor in destroying the infectious agency of the so-called communicable diseases. I consider, however, of equal if not more importance the general cleaning of premises where communicable diseases have been prevalent, believing that the two procedures are the means of preventing a large number of cases of communicable disease and that neither one of the processes is entirely sufficient in itself.

Would disinfect after diphtheria, scarlet fever, smallpox, tuberculosis, measles, anterior poliomyelitis and epidemic cerebrospinal meningitis.

WYOMING.—Herbert T. Harris, M.D., President State Board of Health, Basin: Smallpox, scarlet fever, diphtheria, cholera, typhus, cerebrospinal meningitis. In measles and whooping-cough we doubt the efficiency of any fumigation, but the use of some fumigating agent following the two diseases certainly does no harm.

[Replies to number 1 may be classified as follows: Favorable to fumigation, 19; partly favorable, 3; unfavorable, 5; doubtful, 3.]

2. *Do You Regard Formaldehyde as The Most Satisfactory Aerial Disinfectant? If Not, What in Your Opinion Is Better?*

ARIZONA.—Dr. R. N. Looney: Yes.

ARKANSAS.—Dr. C. W. Garrison: Probably so, under favorable conditions. When the temperature is above 60 degrees F. or the atmosphere very humid, some preparation of sulphur is more efficacious, but troublesome in that certain articles are damaged by sulphur fumigation. No fumigation is satisfactory under all conditions.

DISTRICT OF COLUMBIA.—Dr. W. C. Woodward: If by the term "aerial disinfectant" is meant the disinfectant for the purpose of killing the germs in the air, formaldehyde in gaseous form and in the presence of moisture is, in my judgment, as satisfactory a disinfectant as anything we have; but I can hardly conceive of the necessity for disinfecting air alone, as distinguished from the surfaces with which the air comes into contact. Formaldehyde gas, under proper conditions of temperature and humidity, is as satisfactory a gaseous disinfectant as anything that may be used in ordinary practice, except in cases in which it is desirable to destroy insects or rodents, in which last-named cases the use of sulphur dioxide, hydrocyanic acid, carbon monoxide, and carbon bisulphide, each in its appropriate sphere, is better.

FLORIDA.—Dr. J. Y. Porter: Yes, where an aerial disinfectant is practicable or necessary.

IDAHO.—Dr. W. R. Hamilton: Yes.

ILLINOIS.—Dr. C. S. Drake: Formaldehyde, without permanganate of potash, is least damaging, least expensive and most provocative of airing.

ILLINOIS CENTRAL R. R.—Dr. A. E. Campbell: Yes, providing it is efficiently done. If not it is useless. Where we have smallpox with the patients living in cars, I favor sulphur.

INDIANA.—Dr. J. N. Hurty: In my opinion, of all the disinfectants, formaldehyde is the best.

KANSAS.—Dr. O. D. Walker: I know nothing better; but I do not think it covers sins of omission, such as thorough scrubbing with soap and water.

MAINE.—Dr. A. G. Young: Yes.

MARYLAND.—Dr. J. S. Fulton: We never try to disinfect air. We sometimes have to kill winged insects. Hydrocyanic acid vapor and sulphur dioxide are both better than formaldehyde for this purpose.

MINNESOTA.—Dr. H. M. Bracken: Yes.

MISSOURI.—Dr. G. B. Schultz: Yes.

NEBRASKA.—Dr. E. A. Carr: Yes.

NEVADA.—Dr. M. F. Boyd: Formaldehyde, if used in sufficient amount for the space to be fumigated and if attention is paid to temperature and humidity, is undoubtedly the most satisfactory agent at our disposal. Proprietary preparations of this substance offer no material advantages over the formaldehyde-permanganate mixture, and are not to be recommended.

NEW YORK.—Dr. F. M. Meader: For bacteria, yes.

Dr. E. H. Porter, ex-President New York State Board of Health: Yes.

Dr. J. J. O'Connell: Formaldehyde under proper conditions is an efficacious disinfectant. I regard it as one of the most practicable aerial disinfectants in certain circumstances. Like nearly all of the agencies through which we must work in this world, it is not perfect. Very frequently sulphur dioxide, with such hydration as natural atmospheric conditions furnish, may be more satisfactorily employed. In all fumigation, whether with formaldehyde gas or sulphur dioxide, or even with live steam, bed clothing and other articles liable to contain insect agencies of the transmission of infection or etiological factors themselves, should be broken open or very loosely bundled while under exposure. In spore form certain bacterial organisms will resist even boiling, and the ordinary fumigants lack sufficient penetration to destroy organisms protected by thick layers of intervening fabric.

Dr. M. C. Schroeder: The best one we have at present for vegetative forms of disease, not insect borne. Sulphur or hydrocyanic gas where animal life is to be destroyed.

NEW MEXICO.—Dr. L. G. Rice: We use formaldehyde, for I know of nothing better.

NORTH CAROLINA.—Dr. J. H. Way: Yes, it is the best we have.

OHIO.—Dr. E. F. McCampbell: The Ohio State Department of Health recommends formaldehyde for terminal disinfection, if such insects as lice or bed-bugs are not present. In the latter contingency sulphur is recommended.

ONTARIO (Canada).—Dr. J. W. S. McCullough: Yes.

OREGON.—Dr. C. S. White: Yes.

PENNSYLVANIA.—Dr. S. G. Dixon:

Almost immediately after Germany had declared war I realized that the old method of liberating formaldehyde gas from its water solution by the use of potassium permanganate would have to be abandoned, as the latter was all made

in Germany. Therefore, our chemist, Mr. Charles LaWall, was requested to proceed at once to experiment along a line that would likely lead to the discovery of a new and an economic method of liberating the formaldehyde gas. Within three weeks from the time the experiments were started, following a suggestion from Dr. George Rosengarten to try sodium dichromate, he succeeded in producing a more rapid liberation of the gas from the water solution than was possible by the old process.

The reaction is produced by a combination of the dichromate with sulphuric acid. The most suitable proportion appears to be the following:

Sodium dichromate 10 ounces avoirdupois.

Saturated solution of formaldehyde gas 1 pint.

Sulphuric acid, commercial, 1½ fluidounces.

The sulphuric acid can be added to the solution of formaldehyde and the mixture kept on hand for use. It should, however, be more carefully handled, as the presence of the acid would render it destructive to furniture, fabrics, etc.

This solution can be added to the crystals of sodium dichromate spread out in a thin layer over the bottom of the vessel having ten times the capacity of a volume of the ingredients used.

The reaction is more nearly instantaneous than with potassium permanganate. This necessitates a very prompt withdrawal from the room in which the chemical reaction has been started.

The residue is somewhat corrosive and therefore it is well to pull our tin container out of the room by an attached cord one-half hour after the reaction has been started. The residue should be removed from the can immediately and the vessel scrubbed with soap and water.

Dr. S. S. Cohen: In most instances, if thoroughly applied.

South Dakota.—Dr. D. L. Rundlett: Yes, it is one of the most useful and one of the best because of its high value as a germicide, its non-poisonous qualities, and it is not destructive to other materials. With it, however, you must have a large volume of gas produced in a short period of time, to make its effectiveness most marked.

Tennessee.—Dr. Ambrose McCoy: Yes.

Utah.—Dr. T. B. Beatty: Yes.

Wisconsin.—Dr. C. A. Harper: I believe formaldehyde the most satisfactory aerial disinfectant. It must be liberated in sufficient quantities in a well-closed room in the presence of plenty of moisture and heated close to 70 degrees Fahr., or thereabout, in order to be efficient, and a sufficient amount of formaldehyde should be used.

Wyoming.—Dr. H. T. Harris: Formaldehyde is in my opinion the best fumigating agent.

[Summary for Number 2: 28 regard formaldehyde as the best gaseous germicide, 2 qualify their approval.]

(To be continued.)

THE TEACHING OF COMMERCIAL PHARMACY.*

BY ROBERT P. FISCHELIS, B.SC., PHAR.D.

The term "Commercial pharmacy," as generally understood, covers the business features of pharmacy, and, as a subject of the college curriculum, it may be defined as the study of the business problems of the present-day retail pharmacy.

The word "present-day" is used advisedly in this definition, for it must be admitted that the business problems of the retail pharmacy are constantly changing and what was good commercial practice a few years ago is now a fitter subject for discussion by the pharmaceutical historian than by the teacher of commercial pharmacy.

Present-day pharmacies are not all conducted on the same basis, and this fact complicates the teaching of commercial pharmacy. However, I believe that this handicap can be overcome by calling attention to the practice in our best stores as well as in the less desirable ones in such a manner as to create in the student a desire to approximate the best when he starts out on his business career.

It is to be supposed that some commercial training can be acquired by the student in the four years which he is required to spend in a retail pharmacy, by law, in most States. The training there acquired depends, first, upon the methods pursued by the proprietor of the pharmacy in which the student is employed; and, secondly, upon the student's ability and willingness to learn.

There are many features of business practice which cannot be taught except by experience, and usually this experience is not acquired until the pharmacist is in business for himself. In this connection I might refer particularly to buying goods. This is an important part of the business of pharmacy which is usually attended to by the proprietor himself, and the clerk is given little opportunity to learn it.

In many instances he does not lose much by being deprived of the proprietor's instruction, and, if he is wide awake, he will be able to judge for himself whether the "boss" is a successful buyer or not, and later govern his own buying policy accordingly.

Evidently business practice is not taught satisfactorily in most retail pharmacies, as the demand for teaching it in the colleges of pharmacy is constantly increasing.

The teacher of commercial pharmacy is confronted with a difficult task, for he has no time-worn footsteps in which to tread. He must break new ground, and it is essential that he approach his subject with a clear conception of the present-day problems of the pharmacy, an open mind, and a good supply of common sense.

The professor of pharmacy may teach all that is scientific about his subject, without regarding how much of his teaching is later applied, by the graduate, in actual practice; the professor of chemistry may draw beautiful pictures of organic formulas, and the professor of botany may dwell at length on the importance of schizogenous intercellular air-spaces in certain plant parts, but the teacher of commercial pharmacy is compelled to face conditions and set aside theories.

He must take cognizance of the fact that more thought is given nowadays to penny sales than to percolation; that more brain energy is used up in trying to undersell and otherwise compete with the other fellow than in writing organic formulas, and that the green color in the almighty dollar is much more attractive

* Read at the meeting of the New York Branch, A. Ph. A., January 10, 1916.

to the pharmacist of the present day than is the chlorophyll in our medicinal plants.

How best to reconcile the teaching of ideal pharmacy by the well-equipped and sincere major professors with the practice of pharmacy of to-day is no small problem, and it is the problem which confronts every man who teaches commercial pharmacy.

The greatest mistake that a teacher of commercial pharmacy can make is to ridicule the teaching of the theoretical subjects in the pharmaceutical curriculum and endeavor to impress upon the student that business practice is paramount in pharmaceutical education. However, the professor who can see nothing but chemical analysis as the life-work of the pharmacist makes the same type of error.

The following quotation is taken from an article by S. P. Sadtler in the American Journal of Pharmacy (1894), p. 227), and gives an excellent idea of the misconception of the practice of pharmacy in the minds of some eminent authorities, and indicates an absolute refusal to face the facts. It reads:

"If the pharmacist is known to his neighbors and to the medical profession with whom he comes in contact as a good chemical analyst, a thorough botanist and pharmacognosist, and, above all, a skilled compounder of all classes of official pharmaceutical preparations, he can rest assured that he will succeed, if he has, in addition, good common sense. Of course, all of these educational qualifications referred to may be thrown away on a visionary, rash, and unpractical person."

I fear that, according to this criterion of success in pharmacy, 99.5 percent of those now in the profession are failures.

How much more rational is the view expressed by Joseph Jacobs, in the Proceedings of the American Pharmaceutical Association (vol. 48, p. 97), in the following words:

"That pharmacist who best and most thoroughly knows the scientific side of his profession, and whose education has trained his intellect to quickly master in detail the facts of each business condition that confronts him, will be most likely to make a commercial success of his avocation. . . . Our noble professors, who have dedicated their talents and time to the training of youths, should be cheered by the thought that the theoretic side of their teaching is also implanting powers that will aid their charges more successfully to cope with the difficulties that lie across the pathway to commercial precedence."

This gentleman has, to my mind, grasped the situation fully.

All thinking men realize that when one spends some time in the study of any science, language, or other cultural subject, no matter how remote it may be, from one's vocation, the mind is benefited and the ability to solve the many intricate problems which arise in the day's work is aided and increased.

It is, therefore, ridiculous to minimize the value of the theoretical subjects in the curriculum of the pharmacy school, aside from any consideration of their absolute necessity to the proper practice of the profession.

It is my belief that we are teaching little more pharmacy, chemistry, materia medica and botany in our schools at present than is absolutely necessary for the intelligent practice of pharmacy, and any additional time to be devoted to teaching business practice should not replace hours now spent in teaching other subjects, but should be added to the present schedule.

The time allotted to the subject in the Pharmaceutical Syllabus is 75 hours, but I doubt whether many institutions are giving courses covering more than 60 hours. This leads to another problem of the teacher of commercial pharmacy, which is, to determine how best to utilize the time allotted to his subject.

The outline given in the Syllabus covers the subject quite well. It takes in bookkeeping, business correspondence, commercial and business law, property and business practice. The last-named heading includes such subjects as selection of location, financing, equipping, selling, advertising, and manufacturing. It is the most important topic and should take up from one-third to one-half of the time allotted to the course. Bookkeeping should take up about one-third of the time, and the balance can be used for the other subjects.

[The speaker then briefly outlined the course as given by him at the Medico-Chirurgical College of Philadelphia, and closed with the following remark:]

"The subjects in the curriculum of the pharmacy course may be likened to a series of colors which when blended in the proper proportion will produce a 'neutral gray.' When the subject of commercial pharmacy is added to the mixture of the other subjects of the course, in just the proper proportion, a perfect neutral gray results, but without it the blending is incomplete."

BUSINESS.

Business is a Jealous Servant; it is sensitive; it demands undivided attention; if neglected, its disfavor is shown in reduced profits; it will boss the inefficient man—play with him—tangle him—finish him. For the constant, consistent efficient man—for the man who knows all the ills to which business is subject—who governs the big things from positive knowledge of the little things—for that kind of man it works overtime. Stretching the earning capacity of every dollar, it grows, expands, earns, knowing only one limitation—the measure of its boss.—*The New Idea.*

THE TRADE PAPER.

The following remarks on the value of the trade paper were written by that master in the art of publicity, the late Elbert Hubbard, a short time before leaving America on the ill-fated *Lusitania:* "I know hundreds of high, prosperous business men, manufacturers, dealers, jobbers, craftsmen, and I cannot recall a single instance in which the mentally successful man does not read his specialized paper. He subscribes for it and he pays for it promptly. When you subscribe for your trade paper and assimilate it, you are uplifted, inspired, given courage, pep, intellectual vim and vigor and enough trade information to make you free from the trials and tribulations which beset the man who 'doesn't know.' These things all have a direct influence on the bank and mental balance. The trade paper binds everybody in the business into a fraternity, which spells length of days, because it 'serves' and its service is based on specific knowledge."

COUNCIL BUSINESS

A. PH. A. COUNCIL LETTER NO. 10.

PHILADELPHIA, PA., November 23, 1915.

To the Members of the Council:

GENTLEMEN:

As stated in Council Letter No. 9 (p. 24), Frank H. Freericks has raised the question that *Motion No. 18 (referring N. A. R. D. Resolutions in Council Letter No. 14 to Committee on National Formulary)* is out of order.

Chairman Eberle rules that: "Motion No. 18 is in order, the reference can be made with or without recommendation of the Council, or the Council could deal with the question itself without referring it. The construction of standards for whisky and brandy *may be* scientific matter, but the question of including standards for these articles in the National Formulary is one of general policy with which the Council has a perfect right to deal."

Since Motion No. 18 is in order, it should be stated that the motion has received a majority of affirmative votes.

Mr. Freericks now raises the technical plea that Motion No. 18 and his motion (Council Letter No. 5) are entirely independent—that his motion presents for action by the Council, as coming independently from one of its members, a set of resolutions which happen to be the same as those offered by the N. A. R. D. Mr. Freericks moves that:

"I move that the four separate resolutions as submitted by the National Association of Retail Druggists be also adopted by the Council, substituting the name of the Council of the American Pharmaceutical Association for that of the National Association of Retail Druggists. Of course this includes the one pertaining to denatured alcohol."

This motion has been duly seconded by C. T. P. Fennel and will be known as *Motion No. 23 (Adoption of Substituted N. A. R. D. Resolutions)*.

A vote will be taken in two weeks from date on this motion.

Mr. Freericks has sent the following letters, both under date of November 20:

"Yours of the 18th inst. is just to hand, wherein you advise me that Chairman Eberle has held Motion No. 18 to be in order. I immediately wired you the following lettergram in answer:

"'Upon reflection must agree that Motion No. 18 was in order, since in substance a motion to refer, only the reasons given for making it were objectionable; but they cannot control submission, however, as pointed out Thursday. My motion in Council Letter No. 5 is independent, and respectfully urge its immediate submission.'

"As stated in the lettergram, the reasons given for Motion No. 18 were not in order and could not control. For the moment I overlooked that there need be no reason at all underlying a motion to refer, and consequently an insufficient reason can be in no worse position than no reason at all.

"I trust that in my lettergram and letter of Thursday I made clear that my motion offering for adoption certain resolutions as they appear in Council Letter No. 5 was an entirely independent motion, asking the independent action of Council on said resolutions, which I chose to make my own when offering them, though they had been submitted by the N. A. R. D. in the first place. As matters now stand, Motion No. 18 simply means to refer the resolutions submitted by the N. A. R. D. without any action to the Committee on National Formulary. My motion, now duly seconded, presents for independent action on the part of the Council the exact same resolutions which were submitted by the N. A. R. D., but they are not before the Council as the resolutions of the N. A. R. D., but are before it as resolutions offered by me for independent adoption by the Council."

"Your special delivery letter of the 19th inst. reaches me after I again wired you this morning, and after dictating the enclosed other letter. I did not misunderstand the Caspari-Stewart motion, and fully have in mind that it meant to refer the N. A. R. D. Resolutions to the Committee on National Formulary without action on the part of Council. The point I make is that the Caspari-Stewart motion merely undertakes to refer the N. A. R. D. Resolutions as such; it did not undertake to include anything which I had submitted, and, in fact, could not do so,

if I understand correctly, because my motion was not yet before the Council, since at that time it had not been seconded. However, if the Caspari-Stewart motion be adopted it would not preclude me as a member of Council from offering the exact same resolutions as were offered by the N. A. R. D.; in the one instance they would be the N. A. R. D. Resolutions, and in the other instance they would be my resolutions. The Council may for reasons of its own refer resolutions presented by the N. A. R. D. without taking any action, while it may at the same time decide to act upon resolutions presented by me which contain the self-same wording. That the subject-matter of the resolutions offered by me is properly for consideration by the Council is made plain in the ruling of Chairman Eberle on my point of order with reference to Motion No. 18. The Chair there rules, 'The question for including standards for these articles in the National Formulary is one of general policy with which the Council has a perfect right to deal.' Of course, I realize my position is exceedingly technical, but in this instance it serves my good purpose to be technical, though I prefer much not to be driven to the use of technicalities. Again, to sum up my position:

"First.—In Council Letter No. 5 I submitted certain resolutions, and moved their adoption by the Council. Said resolutions contained the same matter as was contained in resolutions offered by the N. A. R. D., but they were not the N. A. R. D. Resolutions, because they were expressly offered as the resolutions of the Council of the A. Ph. A.

"Second.—In Council Letter No. 8 appears the Caspari-Stewart motion to refer the N. A. R. D. Resolutions to the Committee on National Formulary. This motion was not to refer the resolutions offered by me for adoption by the Council, but was to refer the N. A. R. D. Resolutions. The motion could not be to refer the resolutions offered by me, because, not having been seconded, they were not then before Council.

"Third.—Since making the motion that the resolutions as offered by me be adopted, and after the Caspari-Stewart motion to refer the N. A. R. D. Resolutions, there has been a second for my motion to adopt the resolutions offered by me, and consequently my motion should now properly be submitted.

"Fourth.—While the motion offered by me embodies the exact same resolutions as were offered by the N. A. R. D., yet they are not the N. A. R. D. Resolutions, and the Caspari-Stewart motion was expressly restricted to refer the N. A. R. D. Resolutions. While, for reasons sufficient to it, the Council may see fit to refer without action a certain set of resolutions when offered by the N. A. R. D., they may also see fit at the same time to act upon the self-same resolutions when they are offered by one of its members.

"Am truly sorry that I have to be guilty of finding refuge behind technicalities in this matter, but, in my humble judgment, it will be very wrong not to take action on the important matter which is involved in this entire question."

Motion No. 24 (Approval of Preamble and Resolution of Scientific Section in re Closer Coöperation between Educational, Manufacturing, and Banking Interests). Moved by Dr. F. E. Stewart, seconded by G. M. Beringer, that the preamble and resolution adopted by the Scientific Section at the San Francisco meeting, looking towards a closer coöperation between educational, manufacturing, and banking interests as reported in Council Letter No. 9 (p. 31), be approved by the Council.

In this connection a communication from Dr. F. E. Stewart, chairman of the Committee on Patents and Trade-marks, is of interest. It is as follows:

"I read with much interest the resolution offered by Dr. A. R. L. Dohme at the San Francisco meeting of the American Pharmaceutical Association which appears on page 31 of the Council Letter No. 9.

"I agree with Dr. Dohme that it is generally admitted, at least by all students on the subject, that the commercial progress in Germany during the past two decades has been the result of a hearty and complete coöperation between the scientific and individual organizations of that country; also, that good financiers and business men concede that the application of science to the practice of the factory will produce similar results in this country. I agree with him that by applying the scientific training represented by our universities to practical use in our industries it will certainly result in great strides in our commercial growth.

"I also agree with the statement that the factories and the universities in America have stood aloof from one another, to the disadvantage of both, and I am in harmony with his resolution, which suggests calling a special

meeting of representatives of the leading institutions of learning and of leading large manufacturing interests of the country, together with representatives of the leading banking interests, for the purpose of considering ways and means of generating and fostering a spirit of closer coöperation between them.

"One of the questions that such a body would have to consider would be the reason why the factories and universities in this country stand aloof from each other, or, more properly, why the universities stand aloof from factories. As I have devoted almost a lifetime to the study of this problem, and have talked with university men in various parts of the United States for many years past on this important subject; as I am chairman of the Committee on Patents and Trade-marks of the American Pharmaceutical Association, and as the object of the patent law is to promote progress in science and useful arts, I desire to call the attention of the Council to one of the reasons why the universities and factories of Germany cooperate, while the universities of America stand aloof from the commercial houses.

"Medicines and chemical products are excluded from patent protection in Germany, as they are also in France, Austria-Hungary, Italy, Japan, Denmark, Norway, Sweden, Portugal, Russia, and a number of other foreign countries. Consequently, the universities and other educational institutions are in position to impartially discuss new medicines and new chemical products, which they could not do if the products were commercially controlled and undergoing commercial introduction by advertising.

"In all the foreign countries referred to, exclusion from protection of inventions relating to medicines or foods does not generally extend to those relating to processes or apparatus for their manufacture. In all foreign countries which exclude chemical products from protection, except Switzerland, inventions relating to chemical processes may be patented, and in nearly all such countries it is expressly provided by law that a patent for a chemical process by which a new chemical product is made shall in effect cover such product, unless it be shown that such product was made, in fact, by some other process. In other words, when a new product is discovered, and a process of manufacture is patented, no person is permitted to compete with the original patentee until he is able to show that the process he is to employ for that purpose is not an infringement upon the patented process. The object of this proviso is, of course, perfectly apparent.

"I find that the medical scientists connected with our universities in this country are divided into at least two general classes; namely, those who take the same position as that of Lord Camden in his celebrated speech in opposition to copyrights, occurring in what is known as the 'Copyright War,' in Europe, about a century ago; namely:

"'Glory is the reward of science, and those who serve it scorn all meaner views. . . . It was not for gold that Milton, Bacon, Newton, and Locke instructed and delighted the world. When a book-seller offered Milton five pounds for his "Paradise Lost" he did not reject it and commit his poem to the flames, nor did he accept the miserable pittance as the reward of his labor; he knew that the real price of his work was immortality, and that posterity would pay it.'

"Medical scientists who take this position hold themselves aloof from anything that has to do with commerce in materia medica. They claim that they are working for 'pure science,' and that any coöperation with commercial interests on their part would destroy their judicial position, and, consciously or unconsciously, they would become mere advocates.

"The other class of medical scientists agree with Terrill, who, in his treatise on patent laws, says:

"'The theory upon which these laws rest is that it is to the interest of the community that persons should be induced to devote their time, energies, and resources to original investigation for the furtherance of science, the arts, and manufactures. This was recognized from the earliest periods which can pretend to be described as civilized. It is to the advantage of the whole community that authors and inventors should be rewarded, and no measure of reward can be conceived more just and equitable and bearing a closer relation to the benefit conferred by the particular individual than to grant him the sole right to his writing or discovery for a limited period of time.'

"This class of medical scientists would be glad to coöperate with the laboratory work-

ers of the great commercial houses engaged in the chemical and pharmaco-chemical industries, provided the individuals, firms, and corporations engaged in these industries would conform to professional and scientific requirement in relation to the practice of these vocations and introduction of new materia medica products to science, and brands of the same to commerce.

"Professional and scientific requirements demand that the source or genesis, physical, chemical, physiological, and therapeutic properties, methods of preparation, standardization and uses of all medicinal drugs and chemicals, used for the prevention of disease and healing of the sick, shall be published, scientifically classified, and protected by a changeless nomenclature. Scientific and professional requirements also demand that this knowledge shall be impartially discussed and officially verified by competent observers; that the same shall be taught in the medical and pharmaceutical schools and embodied in scientific literature, including pharmacopœias, dispensatories, and text-books, which shall teach the truth, the whole truth, and nothing but the truth.

"Scientific and professional requirements also demand that the practice of medicine and pharmacy shall be conducted by persons properly educated, trained, and licensed by Boards of Examiners.

"It is evident that conformance with these scientific and professional requirements is positively necessary to secure coöperation between professional and scientific bodies on the one side and commercial bodies on the other. It is also evident that under such a system of coöperation new materia medica products can be introduced to science and brands of the same to commerce simultaneously through the professional channels of the medical and pharmaceutical societies and press, and the laboratories of the great commercial houses.

"It is also evident that so long as products themselves are commercially controlled and introduced by advertising such coöperation can never be secured. Commercially-controlled products cannot be freely or impartially discussed in the medical and pharmaceutical journals during the time they are being introduced to commerce by advertising, because those engaged in their manufacture and sale are opposed to the publication of anything in the journals that might injure the sale of their controlled products.

"Germany and most other foreign countries have realized this fact and its bearings upon medical and pharmaceutical science and education, and also upon the practice of medicine and pharmacy, and have consistently excluded from patent protection medicines, chemical products, and foods.

"I am sure that I am voicing the sentiment of our Committee on Patents and Trade-marks when I say that one of the first subjects for such a committee as that proposed by the resolution of Dr. Dohme to consider should be that of materia medica monopoly, as related to our copyright, patent, and trade-mark laws, for unless the educational institutions can be protected from the dangers of commercial exploitation, on the one hand, and capital invested in original investigation by the manufacturer engaged in the chemical and pharmaco-chemical industries, on the other, there can be no coöperation between professional and commercial interests."

J. W. ENGLAND,
Secretary of the Council.

415 N. 33rd St., Philadelphia, Pa.

A. PH. A. COUNCIL LETTER NO. 11.

PHILADELPHIA, PA., November 29, 1915.

To the Members of the Council:

GENTLEMEN:

Motions No. 21 (*Presentation of Proceedings to Denver Branch*) and *No.* 22 (*Additional Appropriation of* $100 *for Printing, Postage, and Stationery*) have each received a majority of affirmative votes.

Treasurer H. M. Whelpley writes (November 25, 1915) that: "Please send this statement out as a part of the next Council letter. When published in the Journal it will be convenient for reference by the entire membership."

The statement is as follows:

A. Ph. A. Income from Annual Dues.

Payments made *for* each fiscal year from 1900 to 1916 inclusive.

Compiled from the reports of Treasurer S. A. D. Sheppard for 1900–1908 and Treasurer H. M. Whelpley, 1909–1916.

The receipt of the annual dues *during* a fiscal year is influenced by the success of the treasurer in collecting delinquent dues, current dues, and the manner in which members pay dues in advance (for the next fiscal

year). The amount of money received for dues *in* 1912 (Journal A. Ph. A., 1913, p. 1051) was comparatively large, because the fiscal year had just been changed to run even with the calendar year. The treasurer took advantage of the opportunity of collecting at one time $2.50 for the last six months of 1912 and also $5 for the fiscal year 1913. This saved postage and secured some payments that otherwise would have been lost.

The payment of dues *for* each fiscal year gives a comparative record of the actual supporting membership and demonstrates the fluctuations in the same.

The number of members paying *for* each year shows a general increase during the past fifteen years. In spite of the general business depression in this country, more members have paid dues for 1913, 1914, and 1915 than for any previous three years in the history of the American Pharmaceutical Association.

Fiscal year	Amount of dues paid for the year
1900 (July, 1900–June, 1901)	$4970.00
1901 (July, 1901–June, 1902)	5125.00
1902 (July, 1902–June, 1903)	5925.00
1903 (July, 1903–June, 1904)	6300.00
1904 (July, 1904–June, 1905)	6445.00
1905 (July, 1905–June, 1906)	7415.00
1906 (July, 1906–June, 1907)	7485.00
1907 (July, 1907–June, 1908)	8305.00
1908 (July, 1908–June, 1909)	8590.00

H. M. Whelpley was elected treasurer September 11, 1908.

Fiscal year	Amount of dues paid for the year	
1909 (July, 1909–June, 1910)		$9435.00
1910 (July, 1910–June, 1911)		9760.00
1911 (July, 1911–June, 1912)		9390.00
1912 (Jan., 1912–Dec., 1912)	$1350.00	
Dues only	28.50	
		$1378.50

The fiscal year was changed to run even with the calendar year.

1912 (July, 1912–Dec., 1912)		$ 4137.50
1913 (Jan., 1913–Dec., 1913)	$10760.00	
Dues only	59.25	
		10819.25
1914 (Jan., 1914–Dec., 1914)	10497.00	
Dues only	24.00	
		$10521.50
1915 (Jan., 1915–Dec., 1915)	$10265.00	
Dues only	52.00	
Miscellaneous dues	9.25	
		$10326.25
1916 (Jan., 1916–Dec., 1916)		880.00
Total		$127 208.00

"Dues only" members do not pay for the Journal.

"Miscellaneous dues" were received from members who paid up to the month they resigned.

H. M. Whelpley, Treasurer.

St. Louis, Mo., November 24, 1915.

It may be added that the Treasurer's statement gives the income from the annual dues only; it does not include the income from other sources, such as National Formulary, Proceedings, Journal advertising, subscriptions, etc. In 1913 and 1914 the income from such sources was over $6700 yearly.

Under date of November 26, 1915, the following communication had been received from Frank H. Freericks:

"Pertaining to Council Letter No. 10, and to my motion with reference to the deletion of brandy and whisky to be known as Motion No. 23: Am particularly grateful that a vote on this matter has been deferred by the secretary for two weeks. Just a word about the apparent contradiction which might be found in now adopting resolution offered by me, when the self-same resolutions coming to Council from another association have been referred without action thereon. It is plain that the resolutions as offered by me, and kindly seconded by Professor Fennel, will for all practical purposes appear as a reconsideration of the earlier action to refer, and I would ask all who are interested to look at it in that light. May I add that if two weeks' time had been given before calling a vote on the motion to refer, that then there is just a slight possibility that such motion would not have carried.

"Now very briefly as to the merits of the question: Brandy and whisky are substances of very frequent legitimate medical use. They have been recognized in the United States Pharmacopœia for many years. Such substances, or substances of a similar character and virtue, have been recognized by the pharmacopœias of most all, if not all, of the enlightened nations.

"Because of the tendency in our country toward a laughable narrowness concerning the legitimate use of such articles there is more and greater reason for their recognition here than anywhere else, and while I cannot speak from experience, I have very great doubt as to the quality of brandy and whisky which floats about in so-called Prohibition States. It is inconceivable that a body of intelligent men, having first decided that brandy and whisky should be recognized as heretofore, then turn about and decide upon their deletion, on the ground that they cannot agree upon a standard. Why should it be more difficult to agree upon a standard for them than it is to agree upon a standard for any

other article regarding which there may be difference of opinion? Why should the Revision Committee of the Pharmacopœia and all honorable pharmacists of this country, who each of them is interested and in a measure responsible, be made the laughng stock of future generations, as having agreed or submitted to the deletion of these articles, when their legitimate use as medicines is at least fully in keeping with any other substance that is recognized, and only because it is made to appear that such will serve the cause of Prohibition?

"Since a course has been decided upon by a national representative body of retail druggists, which, at least in a measure, will tend to save pharmacy and pharmacists from ridicule, it seems but proper that, having failed to initiate a course of our own, we should at least give support to the other, all of which may still result in an even more satisfactory solution of the entire difficulty."

Under date of November 27, 1915, the following communication has been received from George M. Beringer:

"I am advised that at San Francisco the Council decided to expunge from the minutes the discussions relating to the discontinuation of Prof. C. Lewis Diehl as Reporter on the Progress of Pharmacy.

"Since that meeting there has been considerable correspondence and discussion in the Council relating to the election of Professor Diehl as Reporter Emeritus, and I am constrained to believe that we should now take an action similar to that taken at San Francisco. My regard for Prof. C. Lewis Diehl is such that I would not want to see his feelings hurt in the least degree, nor anything be published that might, at any time, be misunderstood.

"I believe that the best interests of the Association will be served and our regard for our former Reporter demonstrated if we leave in the published records only the record of the motions that have been adopted, without the comments or preliminary actions proposed.

"I will, therefore move that there be stricken from the minutes of the Council all reference to the discussions on this subject, and that there be retained simply a record of the motions made thereon and adopted."

The above motion is seconded by C. H. La Wall and will be regarded as *Motion No.* 25 (*Expunging Discussion on Discontinuance of Prof. C. Lewis Diehl as Reporter on the Progress of Pharmacy from Published Minutes in Journal*).

Motion No. 26 (*Expunging Discussion from Minutes Published in Journal on Financial Affairs of the Association*). Moved by Dr. F. E. Stewart, seconded by C. H. LaWall, that all references to the financial affairs of the Association as given in the Council letters since the annual meeting at San Francisco in August, 1915, be expunged from the minutes of the Council, when published in the Journal, except the motions.

Motion No. 27 (*Election of Members*). You are requested to vote on the following applications for membership:

No. 22. Arthur Dussault, 268 Lisbon St., Lewiston, Me., rec. by M. L. Porter and J. W. England.

No. 23. Albert Falkenhainer, Algona, Iowa, rec. by G. Scherling and William B. Day.

No. 24. Fred Orville Blaylock, 1027 Mississippi St., Lawrence, Kan., rec. by L. D. Havenhill and G. N. Watson.

No. 25. Charles Joseph Innocent Charles, Cash and Sixth Sts., Colon, Republic of Panama, rec. by Anna G. Bagley and William B. Day.

No. 26. Robert Gordon Watson, 1103 Cook St., Denver, Col., rec. by W. T. Hover and F. W. Nitardy.

No. 27. James S. Potter, 138 Maple St., Richmond Hill, Long Island, N. Y., rec. by Otto Raubenheimer and E. E. Wyckoff.

No. 28. Boris Boxer, 1412 Washington Ave., New York City, N. Y., rec. by Jacob Diner and Gustave Horstmann.

No. 29. Frederick G. Dillemuth, M.D., 411 East 153rd St., New York City, N. Y., rec. by Jacob Diner and Gustave Horstmann.

No. 30. Philip Eichler, M.D., 1787 Washington Ave., Bronx, New York City, N. Y., rec. by Jacob Diner and Gustave Horstmann.

No. 31. Lurayne E. Kline, 703 East Thirteenth St., Indianapolis, Ind., rec. by Paul S. Pittenger and J. H. Beal.

No. 32. William H. Arndt, 4624 Fifth Ave., Brooklyn, N. Y., rec. by William C. Anderson and Jacob H. Rehfuss.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33rd St., Philadelphia, Pa.

A. PH. A. COUNCIIL LETTER NO. 12.

PHILADELPHIA, PA., December 6, 1915.

To the Members of the Council:

GENTLEMEN:

Motion No. 24 (Approval of Preamble and Resolution of Scientific Section in re Closer Coöperation between Educational, Manufacturing, and Banking Interests) has received a majority of affirmative votes.

Two weeks having elapsed since the submission of Motions Nos. 19 and 20 (Council Letter No. 9, p. 30), a final vote is now called for, the provisional vote having been taken on November 16. A voting card is enclosed for those who have not voted or wish to change their vote.

The following communication has been received from Frederick J. Wulling:

"Council Letter No. 9: Professor Fennel's contention that the Branches should hold meetings more frequently, etc., is, on the whole, proper. I would like the suggestion embodied in his motion discussed in the light of practicability and the association rules, and possibly a less drastic requirement could be agreed upon.

"Concerning Motion No. 19, I am not certain, but believe a motion such as this should originate in a general session of the Association. This should be determined before asking the general membership for expression. The replies, too, might swamp the Journal.

"I would not object to Motion No. 20 if the special committee of five were omitted. Otherwise, I vote in the negative, because I have no evidence that the services of the Finance Committee have been or are unsatisfactory.

"If the custodian of the Proceedings approves Motion No. 21, I vote 'Yes.'

"Record my affirmative vote on Motion No. 22.

"Concerning the Scientific Section resolutions referred to by Dr. Dohme and Editor Eberle, I would like to talk the matter over with our president before writing further. Personally, I favor both resolutions—at this writing, at least."

The following communication has been received:

COMMITTEE OF REVISION
of the
PHARMACOPŒIA OF THE UNITED STATES OF AMERICA.

PHILADELPHIA, PA., December 4, 1915.

To the Council of the American Pharmaceutical Association:

GENTLEMEN:

I have been requested by the Acting Chairman of the National Formulary Committee, Professor Scoville, to state to the Council the reasons for deleting whisky and brandy from the new Pharmacopœia. The action was taken after many months' consideration and debate. It would take a long time and much space to review all of the arguments. Forty members of the Committee of Revision out of the whole number (fifty) are members of the American Pharmaceutical Association, and they voted upon the question of deletion. In the Committee of Revision there are twenty-two members who have been retail druggists, and some are still active in the retail drug business; the views of retail druggists were ably presented. For these reasons it would seem proper for the undersigned to make a brief statement.

Spiritus Frumenti and Spiritus Vini Gallici, as we all know, are official in the present Eighth Revision of the United States Pharmacopœia. These standards were rendered inoperative by the act of President Taft, whose decision as to "What is whisky?" overruled the standards of the U. S. P. and admitted what are called "blends," while the present U. S. P. standards declare for "Straight whisky." President Roosevelt decided that the U. S. P. VIII standards were right, and they were approved by him. President Taft reversed the decision of President Roosevelt, and, as the question stands to-day, the U. S. P. standards are null and void.

It will thus be seen that if the President of the United States can rule out the standards for two articles in the U. S. P., why could he not rule out ten, fifteen, or twenty others if he was so disposed? What would be the use of retaining two articles in the Pharmacopœia, knowing that they would not be accepted by the Government? The establishment of a precedent for a book of standards is an important consideration from a legal point of view. The deletion of whisky and brandy from the Pharmacopœia does not interfere in any way with the sale of whisky throughout the United States. The laws of the United States and of the various States which govern primarily are not based in any way on the retention or deletion of whisky in the United States Pharmacopœia.

The Committee of Revision, I am sure, viewed this question from its technical point of view, and was nearly divided upon the question of retaining the standard for straight whisky. Others wanted a standard

which would not exclude "blends" or various standards now in the Pharmacopœia. The N. A. R. D., of course, had a perfect right to question the judgment of the Committee of Revision and ask for a reconsideration. The third resolution of the N. A. R. D. —"That we ask the Board of Trustees of the United States Pharmacopœia to investigate fully the rumors which are afloat relative to the action of the Committee on Revision in deleting these two substances"—was undoubtedly passed in the heat of an argument at Minneapolis and without due consideration. If the N. A. R. D. had any definite charges to make of any wrong-doing on the part of the Committee of Revision, they should have been preferred.

On the other hand, the publishing of this resolution hinting at wrong-doing on the part of the Committee of Revision looks very much like vindictiveness. The Chairman of the Revision Committee was visited by the solicitor of the National Wholesale Liquor Dealers' Association immediately after the decision of the Committee of Revision. He desired, on the part of his association, to have the decision reversed. The Chairman promised to receive any communication from this association and place it before the Committee of Revision, but no communication has been received and no action was taken. The Chairman informed the solicitor that the vote was final, unless a reconsideration in parliamentary manner was voted upon by the committee.

The Committee of Revision cannot afford to rest under any intimation of wrong-doing based upon "rumors." The undersigned deeply regrets that the hasty passage of the resolutions and subsequent publication throughout the pharmaceutical press should have been made. The Chairman of the Revision Committee is satisfied that no charge of wrong-doing can be sustained, and he is unwilling to believe that the decision to delete whisky and brandy from the Pharmacopœia was based upon anything else but the honest judgment of each member.

Very truly yours,

JOSEPH P. REMINGTON.

The following communication has been received:

CAMDEN, N. J., November 27, 1915.

To the Council of the American Pharmaceutical Association:

GENTLEMEN:

On behalf of the Committee on Unofficial Standards, I submit the following supplemental report:

We have adopted monographs covering the following titles and these have been sent to the Editor for publication in the Journal of the American Pharmaceutical Association:

Æther Aceticus.
Calcii Lactophosphas.
Lithii Salicylas.
Malvæ Folia.
Mangani Sulphas.
Potassii Sulphas.
Scoparius.

I believe that the above titles complete the list of substances not contained in the United States Pharmacopœia, for which standards will be needed in the National Formulary.

Respectfully submitted,

GEO. M. BERINGER, Chairman.

The following budget of appropriations for 1916 is submitted by the Committee on Finance:

Proposed Budget of Appropriations for 1916.

Appropriations for general expenses:

No. 1.	Salaries	$6150	
No. 2.	Printing postage and stationery	1000	
No. 3.	Clerical expenses secretary's office	416	
No. 4.	Miscellaneous expenses	200	
No. 5	Stenographers	350	
No. 6	Travelling expenses	200	
No. 7.	Committee on Membership	250	
No. 8.	Committee on Unofficial Standards	100	
No. 9.	Year Book	2500	
No. 10.	Premium on treasurer's bond	50	
No. 11.	National Drug Trade Conference	100	
No. 12.	Journals for reporter	35	
No. 13	Section on Scientific Papers	25	
No. 14.	Section on Education and Legislation	25	
No. 15.	Section on Commercial Interests	25	
No. 16.	Section on Practical Pharmacy and Dispensing	25	
No. 17.	Section on Historical Pharmacy	25	
No. 18.	Women's Section	25	
No. 19.	National Syllabus Committee	25	
			$11 526

Appropriations for open accounts:

No. 20.	Journal		$5750	
No. 21.	(*a*) Publication	$4500		
	(*b*) Clerical expenses	800		
	(*c*) Postage and stationery	300		
	(*d*) Freight drayage and miscellaneous	150		
No. 22.	National Formulary		1000	
No. 23.	Badges and bars		50	
No. 24.	Certificates		50	
				6 850
				$18,376

Do you approve of budget of appropriations for 1916 as above proposed? This will be regarded as *Motion No.* 28 (*Approval of Budget of Appropriations for* 1916).

J. W. ENGLAND,
Secretary of the Council.

415 N. 33rd St., Philadelpha, Pa.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and its branches shall become the property of the Association, with the understanding that they are not to be published in any other publication than those of the Association, except by consent of the Committee on Publication."—By-Laws, Chapter X, Art. III.

Reports of the meetings of the Local Branches should be mailed to the Editor on the day following the meeting, if possible. Minutes should be *plainly* written, or typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly, and manuscript should be signed by the reporter.

BALTIMORE

The annual meeting of the Baltimore Branch, American Pharmaceutical Association, was held in the Assembly Hall of Hynson, Westcott & Company's Pharmacy, Wednesday, January 19, 1916.

The secretary-treasurer presented a *résumé* of the year showing the activities of the Branch and containing a statement of its financial condition, which in comparison with previous years was very satisfactory.

He explained that the balance in the treasury was due solely to the courtesy of Messrs. Hynson, Westcott & Company in extending the use of the meeting-room gratis, as the only expenditures were for stationery, multigraphing, and postage.

He expressed particular appreciation of the activities, interest, and attendance of the pharmacisters, and especially mentioned the May meeting, at which they prescribed various cooling, heating, and nourishing preparations for the inner man, and incidentally remarked that their prescriptions did not fall under the ban of the Harrison Act and could be repeated at a future occasion.

The committee appointed to endeavor to arrange for a series of talks by Dr. Caspari on the changes in the new Pharmacopœia reported that inasmuch as he had been indisposed as the result of a grip attack, and also as it would not be issued for several months, the matter had better be postponed to a future date, at which time it was practically certain that he would favor us along these lines.

The committee appointed to consider the advisability of condensing the Branch into a more compact body reported that it was thought best for all the interests concerned for such an organization as the Branch to exist in Baltimore and the other cities, as it was a body which could embrace any or all of the pharmaceutical interests in its membership, and also because any limitation of its membership would cause it to cease to be a part of the parent association.

The report was considered thoroughly and considerable time was spent in discussing the whole subject of the past, present, and future of the Branch, and the same conclusions as the committee's were reached. It was suggested that if a small number of congenial pharmacists wanted to form such an organization, nothing was to prevent them from doing so.

Notice was given that a resolution would be presented at the next meeting to add to the list of committees a Social Committee, to be composed exclusively of the pharmacisters, with Miss Patterson as the first chairwoman.

The annual election resulted in the following officers being elected to serve for the ensuing year: President, Louis Schulze; vice-president and chairman Executive Committee, Charles L. Meyer; secretary-treasurer, Wm. J. Lowry, Jr.; assistant secretary, Miss Olive Cole. Chairmen of committees: Membership, Otto Muelhause; Professional Relations, Henry P. Hynson; Science and Practice of Pharmacy, Charles C. Neal; Education and Legislation, Henry E. Wich; Social, Anna M. Patterson.

WM. J. LOWRY, JR., Secretary.

CHICAGO.

The January meeting of the Chicago Branch of the American Pharmaceutical Association was held Tuesday evening, January 18, 1916.

The treasurer's report indicated receipts during the year of $62.30, expenditures of $65.80 and a balance of $12.75.

As the result of the annual election the of-

ficers and committee chairmen for the ensuing year are the following: President, Hugh Craig; first vice-president, A. H. Clark; second vice-president, John F. Fischnar; third vice-president, Miss Jean Gordon; Council Member, Clyde M. Snow; secretary-treasurer, E. N. Gathercoal, 74 East Twelfth Street. Chairmen of committees: Membership, C. C. Orr; Legislation, James H. Wells; Practice, S. K. Sass; Medical Relations, Dr. Bernard Fantus; Publicity, Thomas Potts.

The principal feature of the evening was an address by Dr. Prentiss McKenzie, who presented an illustrated lecture on the production of biological products. He used moving pictures taken at the H. K. Mulford & Co.'s farm at Glenoble, Pa.

The lecture and pictures were very fine and were well received by the audience of about 75 members and friends.

E. N. GATHERCOAL, Secretary.

CINCINNATI.

The regular monthly meeting of the Cincinnati Branch, American Pharmaceutical Association, was held at the Lloyd Library, January 11, 1916.

After disposing of the routine business, President Charles G. Merrell introduced the speaker of the evening, Dr. Edward B. Reemelin, Professor of Chemistry, University of Cincinnati, who chose as his subject "Modern Trend of Biochemistry." The doctor pointed out the fact that the subject of biochemistry should be of especial interest to the pharmacist in view of the continuous chemical disturbances taking place in the human economy. "We look at life with a broader view through biochemistry, specializing the chemistry of the various products of life."

The lecturer mentioned the important rôle salt plays in the animal existence, not only as the deer hunts the "salt-lick," but he cited that the ancient people often accepted salt in place of gold and silver in their barters.

He called attention to the first synthetic production of urea by Dr. Wöhler in 1828, which totally upset the older views of animal life; he gave prominence to the excellent work done by Liebig, Fischer, and others to further our knowledge of this branch of chemistry; he spoke of the process of digestion, the same being one of hydrolysis, dehydrolysis, and again hydrating, finally forming colloidal solutions; of the action of strong alkalies destroying the enzymes, and why pepsin and hydrochloric acid are both necessary in digestion; how uric acid, when not eliminated, causes disease; how all changes taking place in the body may be considered colloidal changes, and many other valuable and instructive points.

The doctor was heartily thanked by the members, after which a general discussion took place.

CHARLES A. APMEYER, Secretary.

DETROIT.

The January meeting of the Detroit Branch of the American Pharmaceutical Association was held at the laboratory of Frederick Stearns & Company, Friday evening, the 21st.

President Scoville called the meeting together at 8:30 P.M., about forty being present.

The speaker of the evening was Mr. Joseph Abrahams, his subject being "Toilet Soaps."

Mr. Abrahams read a history of toilet soaps from the time they were first used down to the present. He also gave a description of the ingredients and processes used in their manufacture. A miniature working model of a soap plant was then put in operation and the soap displayed in its various forms until finally completed.

A very interesting discussion followed.

On motion of Mr. Hall a vote of thanks was passed to Frederick Stearns & Company and Mr. Abrahams for kindness extended to the Branch.

A. A. WHEELER, Secretary.

NASHVILLE.

The regular meeting of the Nashville Branch of the American Pharmaceutical Association was held in the Music Room of the Nashville Y. M. C. A. Building, Thursday afternoon, January 27, in joint session with the Nashville Drug Club, President E. F. Trollinger in the chair.

A report of the nominating committee showed that a ballot containing three nominees for each office had been mailed to each member of the Branch.

On motion, a committee composed of F. L. Smith, Dr. J. R. McDaniels, and W. R. White was appointed to canvass the ballot and report the result at the next meeting.

Mr. E. A. Gilliland, sales manager of The Spurlock-Neal Company, was a guest of the meeting and delightfully entertained the

members with a talk on the all-absorbing question of price fluctuation.

He began by telling of the unusual condition prevailing in the quinine market. The greater part of the cinchona bark, he said, comes from Java and is controlled by a Dutch syndicate which has an agreement with the manufacturers of the alkaloid to deliver only a certain amount of the bark each year. It is sold in Amsterdam and in London at auction, and is distributed to the different countries, the larger part going to Germany. Our recent unusual export demands from Italy, South America, and England sent the price skyward. The high price induced many who held stocks to throw them on the market, which caused the price to recede somewhat. Stocks of the larger houses are now limited, and any unusual demand is likely to cause another advance.

Antipyrine, potash salts, and many other imported German chemicals are high and scarce on account of the supply being cut off by the Allies. The recent high price of mercury is caused by the embargo placed on it by England, it being used in making fulminate of mercury, an explosive; by the Mexican disturbance, and by the closing of the Panama Canal. Some has been shipped through Mexico by rail, but has been delayed by the freight congestion at Galveston.

Some belladonna has been received, but it is still high.

The supply of castor oil in the United States is about exhausted. The castor beans come from India, and the scarcity of tonnage, the high freight and insurance rates, and the extra tax placed on them by the British India Government have caused the supply to be almost cut off. It will probably be March or April before relief will come.

The price of carbolic acid will come down soon, he predicted. Much is being made here now, but it is sold on contract and shipped out of the United States. Many complaints are received about the offensive odor of the acid made here.

Some recent rulings on the Harrison law were read and discussed and copies of the rulings distributed to the members.

Dr. J. O. Burge entertained the members by reading an article recently written by Mr. W. H. Cousins.

After several good talks showing the advantages in joining the American Pharmaceutical Association the meeting adjourned.

WILLIAM R. WHITE, Secretary.

NEW YORK.

Minutes of the regular meeting of the New York Branch of the American Pharmaceutical Association, held at the New York College of Pharmacy Building, January 10, 1916. Called to order by President Lascoff at 8:45 P.M.

The minutes of the December meeting were read and ordered adopted.

Treasurer Weinstein's report was received with thanks.

Member of the Council Mr. McElhenie rendered a report covering Council matters in general.

Dr. Diekman, chairman of the Committee on Progress of Pharmacy, read a very interesting and lengthy report, consisting of abstracts covering many important subjects.

No reports were received from the Committees on Legislation and Education, Membership, or Fraternal Relations, as the chairmen of the respective committees were not present.

H. V. Arny, chairman of the Committee on Nominations, reported as follows: For president, J. Leon Lascoff; vice-president, J. C. Gallagher; secretary, Jeannot Hostmann; treasurer, J. Weinstein; chairman of the Committee on Legislation and Education, Dr. Wm. C. Anderson; Progress of Pharmacy, Dr. George C. Diekman; Membership, Dr. Frank L. McCartney; Fraternal Relations, Dr. Jacob Diner.

The report of the committee was received and the committee was discharged with thanks.

Several communications from the General Secretary regarding resignations of members were read and referred to the Membership Committee, as was also a letter from Mr. William H. Smith.

Applications for membership were received from William A. Smith, 188 East 93rd Street, New York, and Herman Walter, 213 Second Avenue, New York, and they were ordered forwarded to the General Secretary.

Mr. McElhenie, upon being called to the chair by President Lascoff, was directed to cast a ballot for the nominees as per the committee's report. After declaring the respective candidates elected he called Dr. H. V. Arny to the chair to act as installing officer.

President Lascoff appointed the following as a committee to coöperate with Local Secretary Holzhauer for the Atlantic City Meeting: Dr. Henry C. Lovis, chairman; Thomas

F. Main, John C. Gallagher, Jacob Diner, and Jeannot Hostmann.

Dr. Robert P. Fischelis, of the Medico-Chirurgical College of Philadelphia, then read a very interesting paper, entitled "The Teaching of Commercial Pharmacy." The president called upon Mr. Charles Holzhauer to open the discussion, and he was followed by many of the members, all of whom agreed that the question was one of vital importance. Dr. Diekman insisted that there was no doubt that the commercial side deserved more attention, but that it should not receive it by taking time away from the teaching of theoretical pharmacy.

The very spirited discussion was carried on for about one hour, and the speaker was then given a rising vote of thanks.

Mr. Emil Roller now entertained the members with a few remarks on the birthday of Dr. Hermann Hager, and presented to the Branch a photograph of this illustrious pharmacist. The Secretary was ordered to send the donor a letter expressing the thanks of the members.

The Secretary was ordered to send a telegram of felicitation to Editor Eberle, to whom the Philadelphia Branch was tendering a welcome dinner on January 14.

Upon motion the meeting adjourned at 11:15.

JEANNOT HOSTMANN, Secretary.

PHILADELPHIA.

Pharmaceutical Philadelphia, on the evening of January 11, opened wide her arms and extended a most hearty welcome to Eugene G. Eberle and the Journal of the American Pharmaceutical Association, of which he is the editor. It was a welcome through which ran an undercurrent of satisfaction that Philadelphia was chosen as the home of the publication of the premier pharmaceutical organization of the country.

Representatives of every pharmaceutical organization in the city and state, as well as of the Philadelphia Chamber of Commerce, were assembled about the banquet board at the Hotel Rittenhouse to tell of their appreciation of the new honor that had come to the city, already so rich in pharmaceutical history, and of their pleasure in having with them again the man who, since he said goodbye to his Alma Mater here away back in the eighties, had done so much for pharmacy and its representatives.

Mr. Eberle, who with Mrs. Eberle and their niece, Mrs. Galbraith, were the guests of the evening, was quite overwhelmed by the warmth of greeting by these old and new friends. Not alone were these felicitations from the representatives of pharmacy, for equally hearty was the welcome of the representatives of medicine and of the business and commercial life of the city. Friends and organizations in other cities by letter and by telegram conveyed their well-wishes.

The dinner and reception were arranged by a committee of the Philadelphia Branch, and the attendance was most representative of the interests with which Editor Eberle will be associated in his work here.

Following the dinner, a brief business session was held by the Branch, in the course of which Charles Holzhauer, of Newark, N. J., local secretary for the 1916 Convention of the American Pharmaceutical Association at Atlantic City, suggested that the New York and the Philadelphia Branches of the parent organization, with the New Jersey Pharmaceutical Association, take separate days for entertainment features rather than to try to unite in arranging that portion of the program. He was of the opinion that bringing the ladies to Philadelphia on one day for a tour of its places of historical interest, and then having the men come up on another day to visit some of the manufacturing plants identified with the drug trade, would be most gratifying to the visitors as Philadelphia's portion of the entertainment. When he suggested the appointment of a committee of five, with the local president an *ex-officio* member, to coöperate in the furtherance of these suggestions, a motion to that effect was carried unanimously.

Samuel C. Henry, the president of the Philadelphia Branch, acted as toastmaster, and in his opening remarks spoke of the gratification of the Philadelphia pharmacists that their city had been made the home of the Journal of the American Pharmaceutical Association, and described the present occasion as a big family gathering at which those present wished to express some of the thoughts that lie upon their hearts and to express appreciation of the honor that has come to the local pharmacists and to Philadelphia.

The office of the Journal has been established in the rooms of the Philadelphia Drug Exchange, and the first speaker, John Fergusson, president of that time-honored or-

ganization, spoke in a humorous vein of the many new evidences of bustle and energy that were apparent since Editor Eberle had been installed there on January 1. On behalf of his organization, which includes the manufacturing and wholesale interests of the city and vicinity, Mr. Fergusson extended a most hearty welcome, and expressed the hope that in its new atmosphere and surroundings the Journal and its field of usefulness would be broadened and enhanced in value, and that the guest of the evening would be spared to direct its progress for many years to come.

In speaking for the Chamber of Commerce, Howard B. French, who is the president of the Philadelphia College of Pharmacy, declared that during the forty-nine years he had been connected with pharmacy he had found the representatives of the profession proverbially modest. He said that they, like Philadelphia, were entitled to stand in the foremost rank. In conveying the welcome of the city through the Chamber of Commerce, Mr. French stated that it was "the greatest city on God's earth, and there is more home comfort to the square inch in our city than on any other spot on the globe." He spoke of the proposed plan to have the delegates at the 1916 convention visit this city, and pledged the coöperation of the Chamber of Commerce, which, with its 5000 members, "is the strongest commercial organization in the world."

Dr. S. Solis Cohen, of Jefferson Medical College, and Dr. Henry Beates, Jr., of the University of Pennsylvania, agreed that both the medical and pharmaceutical professions would be strengthened by this valuable acquisition to Philadelphia's institutions.

The toastmaster facetiously introduced the next speaker, Joseph P. Remington, as the "oldest living pharmacist and the man who founded the Philadelphia College of Pharmacy." Professor Remington referred with pride to the fact that there were eight members of the Board of Revision of the United States Pharmacopœia present. In referring to the assistance which that committee, of which he is the chairman, had received from other organizations, he mentioned particularly the National Association of Retail Druggists and its accomplishments along propaganda lines. He spoke of his long acquaintance with Mr. Eberle, dating from the time the latter was a student in the Philadelphia College of Pharmacy, and in closing shook hands with his former pupil and said: "I have a particular pleasure in welcoming you back to the city of which, I know, you have many pleasing recollections."

Dr. Julius W. Sturmer, dean of the Department of Pharmacy of the Medico-Chirurgical College, told of the warm welcome and coöperation that had been extended to him when, a few years ago, he, like Mr. Eberle, had come to Philadelphia to take up educational work. Mentioning the physical resemblance between the guest of the evening and himself, he referred humorously to an occasion when he was mistaken for the editor of the Journal. He declared, therefore, that in welcoming his distinguished friends he did so with particular pleasure and a sense of possible reflected glory.

Dr. John R. Minehart, dean of the Department of Pharmacy of Temple University, urged that educators in pharmaceutical colleges be impressed with the debt that pharmacy owes the American Pharmaceutical Association, and that they carry that impression along to the students in their classes.

And then came an ovation for Editor Eberle as Toastmaster Henry formally introduced him to this gathering of warm friends. Declaring that the pangs due to the severing of the ties that had bound him to his good friends in Texas for thirty years were partly softened by the pleasure of being welcomed so warmly by his friends in Philadelphia, he said in part:

"We have come here not because we wished to, but because the Association said it was my duty. I hope I did not make a mistake and that I will be able to fulfil all of the wishes of the Association. The Journal needs the help of every member of the Association. And I feel that with the help that you have so generously proffered me, the membership of the Association should be greatly increased everywhere, but particularly in and about Philadelphia. I have in mind a few changes in the Journal, some of which will be made in the forthcoming issue. I hope they will be welcome."

He closed with a plea for continued advice and assistance for himself and his work from his Philadelphia friends, to whom he felt so close by meeting them that night.

The meeting closed with the reading of communications conveying to Editor Eberle the well-wishes in the new field from Professor Otto Raubenheimer, of Brooklyn; Mr. and Mrs. John G. Godding, of Boston, Mass.; Joseph L. Lemberger, of Lebanon, Pa.; Caswell A. Mayo, of New York, and the New York Pharmaceutical Association.

PITTSBURGH.

The January meeting of the Pittsburgh Branch of the American Pharmaceutical Association was held Friday, the 21st.

The feature of the program was a paper on "Tuberculins," which proved one of the most thoroughly instructive treatises on that topic and the disease which they are intended to combat that has ever been written. It was contributed by Dr. Leasure K. Darbaker, of the Chair of Bacteriology of the Pittsburgh College of Pharmacy. Dr. Darbaker said in part:

"Tuberculosis was, without doubt, recognized and described by the early writers of medicine, but at that time it was known only under the general name, 'consumption'—a name that to the present day is still in common use. This name was given the disease from the fact that patients dying from it have certain symptoms, such as loss of weight, good appetite, morning cough, night-sweats, and, although in apparent good health, going down slowly and easily to certain death—each sufferer always hopeful to the latest minute of life. Upon opening the bodies of these patients nodules or tubercles were found in the various affected parts; hence this name.

"Tuberculosis is a simple infection, caused by the *Tubercle streptothrix,* and is rarely fatal. The body, in protecting itself, forms a wall around the invading organism; hence the tubercle.

"Consumption is a complex infection in which the various streptococci and staphylococci are associated with the tubercle organism. The streptococci and staphylococci attack and tear down by liquefaction the walled-up tubercles, and this is the material coughed up by the pulmonary consumptive. It is a consuming disease which, unless properly treated in time, always causes death.

"Koch claimed that the bovine type organism could not infect man, and this was the general belief previous to 1901, when Smith and others conclusively proved that, although the tuberculosis of cattle and that of man were caused by different organisms, yet the type of one could and would infect the other. It is now known that practically all the human tuberculosis of the abdominal cavity, intestines, bones, skin, and glands is an infection caused by the bovine type organism.

"The pulmonary type of infection is the most common. It is caused by the human type organism and is acquired by the inhalation of the organisms in dried sputum. Tuberculosis is not inherited, but as the babe is in constant association with the tuberculous mother, who will throw out in one day millions of organisms by coughing, which organisms are carried a distance of five or more feet (instances are frequent where they are carried as many as seventeen feet), the babe, having weak lungs, readily acquires the disease.

"In practically all autopsies tubercles or healed lesions are found, showing that all, or nearly all, persons have at some time had a tuberculous infection."

After a lengthy and somewhat complicated account of the numerous methods that have been introduced for the prevention and treatment of tuberculosis, Dr. Darbaker mentioned the several types of tuberculins in use, and stated that it is thought by some authorities that tuberculin produces an inflammatory reaction around the tuberculous areas which may cause the dissemination of the organisms.

"All tuberculin injections are dangerous, and on several occasions physicians have made the bold statement that 'they have helped many patients to the Great Beyond by the administration of tuberculins.' Probably the therapeutic value of tuberculin depends upon the formation of antibodies which are produced throughout the whole animal body, while the antibodies produced by the disease are only produced by the tissues directly involved. Dr. Sahli states that 'tuberculin treatment is not an active immunization pushed to its fullest limits, but rather is a stimulant to the natural functions of the body.'" Dr. Darbaker concluded his paper with the statement: "We are still experimenting; we are not dealing with a specific; we are striving for the extermination of one of the world's greatest scourges; it matters but little how this may be accomplished. Up to the present day it will not cure alone, but with proper care and surroundings tuberculins may have aided and hastened some cures."

Preceding Dr. Darbaker's lecture, the Branch elected officers as follows: President, George W. Kutscher; vice-presidents, Peter G. Walter, Leasure K. Darbaker, Jesse J. Doyle; secretary, Benajmin E. Pritchard; treasurer, P. Henry Utech.

The Secretary directed attention to the valuable and instructive character of the

literature concerning drugs that is being sent out by the United States Department of Health, and advised the members to have their names enrolled with the Department for the purpose of regularly receiving the little publications as they are issued.

B. E. PRITCHARD, Secretary.

SAN FRANCISCO.

The San Francisco Branch of the American Pharmaceutical Association met on the evening of January 11, in the office of the Pacific Pharmacist. After roll-call and the reading of the minutes of the December meeting, reports of standing committees were heard. Several communications asking information about the time and place of the Branch meetings were read, and these prove that an interest is being aroused among many of our dormant members. The membership committee reported progress.

Owing to the fact that the County Medical Society meets every Tuesday evening it was deemed advisable to change the meeting night to the second Thursday. The report of the treasurer showed no disbursements and a neat surplus.

A demonstration of "neat package finishing" was given by President Lengfeld. So often the products of a pharmacy are judged by their outward appearances and the speaker impressed the importance of extreme neatness in package finishing. Various containers were made, and this part of the program proved very delightful.

Articles from several pharmaceutical journals were read in abstract. Candy medication, as suggested by Dr. Fantus in a recent journal of the American Medical Association, was favorably discussed.

The Branch will meet again on February 10, at 723 Pacific Building. The sealing of soft gelatin capsules will be demonstrated. Mrs. R. E. White is in charge of the evening's program.

CLARISSA M. ROEHR, Secretary.

CITY OF WASHINGTON.

The January meeting of the City of Washington Branch of the American Pharmaceutical Association was held at the National College of Pharmacy on the evening of January 26, 1916.

Messrs. Kebler, Palkin, and Ewing presented a paper in which they reported the results of a comprehensive investigation on the keeping qualities of spirit of nitrous ether. The study was undertaken to determine the influence of a variety of factors on the decomposition of nitrous ether. Among the factors under observation were the presence of water, the effects of refrigeration, exposure to air, exposure to light, and the selective effect of keeping under varying conditions.

Using the commercially available concentrated nitrous ether it was found that this product itself was comparatively stable, and that diluted solutions of it in official alcohol and in anhydrous alcohol keep very well under all ordinary conditions for at least six months. Even at the end of 18 months no very marked deterioration could be shown in preparations kept with ordinary precaution.

The conclusions reached were that there was absolutely no demonstrable excuse for the very poor quality of spirit of nitrous ether frequently met with.

The problems involved were further discussed by Messrs. Flemer, Kalusowski, Bradbury, Wilbert, Kebler, and Palkin, and the point was made that the druggist, being responsible for the products sold or dispensed by him, should assure himself from time to time that the spirit of nitrous ether on his shelves complies with the requirements of the Pharmacopœia.

The need for including whisky in the Pharmacopœia was discussed at some length in connection with the following preamble and resolutions, which, after a free discussion, were unanimously adopted:

"WHEREAS, It is proposed to delete whisky and brandy from the Pharmacopœia of the United States of America, because of the difficulties involved in devising equitable standards and readily applied tests; and

"WHEREAS, The standards and tests heretofore included in the Pharmacopœia did not guarantee an article of unquestioned purity; and

"WHEREAS, It is practically impossible to control or to determine the purity of whisky or brandy by chemical means alone; and

"WHEREAS, The Government of the United States (for whisky) and the Government of France (for brandy) provide adequate means for securing these products of unquestionable purity and readily-controlled quality; now therefore be it

"*Resolved*, That we, the members of the

City of Washington Branch of the American Pharmaceutical Association, recommend that American pharmacists who are willing or anxious to supply whisky or brandy of good quality for medicinal purposes become acquainted with the existing provisions for securing these products of unquestionable identity and of reasonable purity; and be it further

"*Resolved*, That we, the members of the City of Washington Branch, endorse the proposed deletion of so-called standards for whisky and brandy from the Pharmacopœia of the United States of America."

Mr. Bradbury, in opening the discussion, said it would be interesting to know who really was the instigator of the agitation to include whisky and brandy in the Pharmacopœia. He felt sure that such a move did not come from the legitimate drug trade, as in sections of the country, like the District of Columbia, where druggists were not allowed to sell whisky, the drug trade would be loath to have the responsibility for the sale and distribution of whisky forced back on its hands.

Mr. Richardson said that from his experience prescriptions for whisky are extremely rare and would certainly not warrant the including of whisky or brandy in the Pharmacopœia.

Dr. Harvey W. Wiley reviewed the recent six-year controversy over whisky in the Pharmacopœia, and expressed himself as being heartily in favor of the resolutions as presented. He asserted that the requirements included in the U. S. P. VIII and the requirements, as outlined in a recent number of the Journal of the American Pharmaceutical Association, which had been proposed for inclusion in the U. S. P. IX would not suffice to detect adulterated or sophisticated whisky or brandy.

For the retail druggist who is willing to handle absolutely pure whisky or brandy for medicinal purposes the provisions made by law are ample. Dr. Wiley expressed the belief that the nature of these provisions might be explained so as to point out to well-meaning pharmacists how they might safeguard themselves and their customers. For whisky the double-stamp or bottled-in-bond product is guaranteed by the United States Government to comply with the statement made on the strip label over the cork of the bottle.

While it is true that this label does not in any way guarantee the composition of the original distilled spirits, there are economic reasons for accepting the label as a guarantee of quality. It would not be likely to pay a distiller to have money tied up in a bonded warehouse unless he were reasonably sure of finding a ready market for his product when it is ready for sale.

For brandy the provisions made by the French Government in connection with the now well-known white certificate, or "*Acquite Blanc*," are even more comprehensive. This certificate guarantees a genuine product made from a good quality of wine, and this is, so far as Dr. Wiley knows, the only form of brandy fit for human use. American brandies, so far as known, are vile concoctions made from fermented mixtures of sugar and pomace or the distillation of so-called "sick wines," many of them very sick and unfit for use.

With these additional suggestions as to how the retail druggist can secure a good quality of whisky and brandy, Dr. Wiley thought the resolutions quoted above would be timely and of value to the drug trade, particularly in view of the fact that he had just learned from the chairman of the U. S. P. Committee of Revision that the proposition to reconsider the vote to delete whisky and brandy had been voted down by a decided majority of the members of the committee, despite the fact that several members who had previously voted for deletion had also voted for reconsideration. This vote, he believes, definitely disposes of whisky in the Pharmacopœia, and the publication of the U. S. P. IX will now proceed unhampered by vexatious questions of policy.

S. L. Hilton, Secretary.

EDITORIAL NOTES

Editor: E. G. EBERLE, Bourse Building, Philadelphia, Pa.

Committee on Publication: J. W. ENGLAND, *Chairman;* G. M. BERINGER, E. FULLERTON COOK, H. B. MASON, F. J. WULLING, and the Editor-in-Chief of the Journal, General Secretary, Treasurer and Reporter on the Progress of Pharmacy, *ex officio.*

Office of Publication, 253 Bourse Building, Philadelphia, Pa.

THE NATIONAL TRADE ASSOCIATION OF AMERICA.

The National Trade Association of America has been organized, with George B. Caldwell, of Sperry Hutchinson Company, as president; Percy S. Straus, of R. H. Macy & Co., as vice-president; Harry B. Haines, of the News Printing Company, treasurer, and Louis Barnet, acting secretary. It has been reported that the activities will include a campaign against the Stevens-Ayres bill; the objects set forth in the constitution of this association are:

"To promote the impartial and scientific study of business conditions in all sections of the country and present the result to the members and to the public; to investigate means of securing better markets for producers, diminishing the expense of distribution and reducing the cost to the consumers; to encourage scientific and uniform legislation intended to foster trade and commerce, and to oppose and arouse public sentiment against legislation which seeks to shackle trade and commerce or to hinder the free play of competition in the supply or price of commodities in the interests of the few and to the injury of the many; to create a national league of practical men engaged in trade and commerce whose efforts shall be directed through a non-political, constructive association to establish a clearer understanding of the commercial needs of the whole country and of its various sections and of governmental regulation thereof or interference therewith."

PHARMACISTS IN GOVERNMENT SERVICE SHOULD HAVE GREATER RECOGNITION.

Medical men are seeking to have the number of their profession in the government service increased. While they may have stronger argument in their favor, relatively, at least, there are good and sufficient reasons for asking that better recognition be given to pharmacists. The war in Europe has evidenced the necessity for having trained pharmacists—and our experience during the Spanish-American War should have served as a lesson, when many more soldiers died from disease than from bullets.

Dr. George F. Payne, in a communication to the Druggists' Circular, says "that, while the pharmacist is a commissioned officer in the navy, in the army he is still not as well paid as, and is outranked by, the musicians and those who take care of the sick mules. There was no intention in the present organization to consider sick mules as more important than sick men; it was done on account of obsolete methods which were adhered to in the matter. It certainly seems a very narrow and out-of-date policy for the whole hospital corps of the United States army not to contain a single commissioned officer. The pharmacists in the armies of nearly every country in the world rank from lieutenant to colonel, and in France they often go as high as brigadier-general. England and the United States are the only two civilized countries who do not give commissions to their army pharmacists. Japan gives them commission as second lieutenants.

"The strenuous and important work done by the hospital corps of the various armies of the world requires capable and efficient men. In the United States army good hospital corps men are picked out to do X-ray photographing and much other important electrical work. They are called upon for chemical work, prescription filling, sanitary engineering and the handling of much of the important details of the work of the hospitals. Some excellent men have been developed in the service, and the wonder is that they continue to remain in their positions for the pittance which they receive."

In the reorganization of the army, proper recognition ought to be given to pharmacists, and to that end we should use our earnest endeavors.

AN AMENDMENT TO ADD MESCAL AND MESCAL BUTTONS TO THE PROSCRIBED DRUGS OF HARRISON LAW.

Senator Thompson, of Kansas, has introduced a bill (S. 3526) amending the Harrison law by adding mescal and mescal buttons to the list of proscribed drugs. It seems to us that such an addition is unnecessary, at least at this time. The scale could easily be regulated by states, as the use of the drug is very limited and confined to a few states, and therein restricted.

SUBSTITUTES FOR ABSORBENT COTTON.

Recent consular reports mention several more or less successful cheap substitutes for absorbent cotton that have been introduced since the European war began. One of these now on sale in Berlin is known as "lignin" and is made of pine cellulose. It is said to absorb blood better than cotton, but cannot compete with the latter as a dressing for wounds. It is, however, pronounced satisfactory for use as a second dressing. A cellulose wadding, made by a secret process from chemical wood pulp, is now offered as a dressing for wounds in Sweden. It comes in very thin sheets, resembling tissue paper. The use of sterilized spagnum moss for the same purpose appears to have been generalized by the exigencies arising from the war.

CONTEMPLATED DISCONTINUANCE OF THE FAHRENHEIT THERMOMETER SCALE.

House bill 528 provides that the Fahrenheit scale be no longer used in government publications, or at least, discontinued after a designated period of time. Aside from custom there seems to be no particular reason why the Fahrenheit scale should be continued; the Centigrade scale is quite generally employed, except for weather indications. The same objections do not obtain that apparently exist relative to a general adoption of the metric system in the various measures of common use.

If you favor the bill, write Congressman Albert Johnson to that effect, or, if you object to the discontinuance, give him your reasons for retaining two thermometer scales when the simpler one will answer every purpose.

THE OMNIBUS REVENUE BILL CONTEMPLATES REPEAL OF STAMP TAX.

The omnibus revenue bill is said to contemplate the repeal of the "stamp tax" of the emergency "war" revenue act of October 22, 1914, which has been extended to expire at the end of the present year.

CORNELL'S CHEMICAL LABORATORY DESTROYED BY FIRE.

Morse Hall, home of the Chemistry Department at Cornell University, was practically destroyed by fire, February 13, entailing a loss of more than $400,000, wiping out research work, the value of which can hardly be estimated.

PERSONAL AND NEWS ITEMS.

Dr. H. H. Rusby, of the New York College of Pharmacy, recently delivered an address on "Drug Cultivation" before the Board of Managers of the New York Botanical Garden.

Dr. Reid Hunt, of Harvard University Medical School, has been elected president of the American Society for Pharmacology and Experimental Therapeutics.

John Humphrey, editor of the Pharmaceutical Journal (Great Britain), has been compelled, on account of impaired health, to resign his duties. Mr. Humphrey assumed sub-editorial duties in 1892, afterwards becoming editor, and during these years helped on the progressive movement in British pharmacy and accumulated during that time a splendid record of which he may well be proud.

Howard B. French, president of the Philadelphia College of Pharmacy, was elected president of the Philadelphia Chamber of Commerce. In recognition of faithful service for thirty years as chairman of the Executive Committee of the Paint Manufacturers' Club, this association presented Mr. French with a handsome loving cup at the annual meeting of this organization.

H. K. Mulford, president of H. K. Mulford Company, was elected one of the vice-presidents of the Philadelphia Chamber of Commerce.

The Deutsch-Amerikanische Apotheker Zeitung of January is an interesting Hermann Hager number. Editor Hugo Kantrowitz was in Philadelphia in attendance at the February Philadelphia A. Ph. A. Branch

meeting, and participated in the presentation of an enlarged photograph of Hermann Hager to the Philadelphia College of Pharmacy.

Professor Otto Raubenheimer addressed the Philadelphia Branch, A. Ph. A., on the subject of the A. Ph. A. Recipe Book, February 8. He also made the presentation address in donating an enlarged photograph of Hermann Hager to the Philadelphia College of Pharmacy, on behalf of the German Apothecaries' Society of New York.

Charles Sumner Koon was recently elected secretary of the Michigan Board of Pharmacy. He is also president of Muskegon (his home city) Retail Druggists' Association.

Dr. E. L. Newcomb, head of the Department of Pharmaceutical Botany and Pharmacology, University of Minnesota, has been elected editor of the Northwestern Druggist. Dr. Newcomb is also secretary of the Minnesota Pharmaceutical Association.

After twenty-five years of valuable service to pharmacy, Merck's Report ceases to be a subscription journal. The first number has already been issued under the new order, and, while different in general make-up, it will continue to be a welcome visitor. The spirit of the publishers is expressed in these words, "The field is so well covered by the pharmaceutical press that it seems unnecessary to do what other journals are doing so well."

Riker-Hageman merger with the United Drug Company has been authorized. The capitalization is $20,000,000, and it is intimated that the Dow and Owl Drug Company "chain" of stores will be added before very long.

The Farbwerke-Hoechst Company will contest the legality of a ruling made by the Commission of Internal Revenue applying the provisions of the Harrison Act to non-habit-forming drugs, such as novocaine, orthoform, anæsthesin, and holocaine.

OBITUARY

J. P. BRASHEAR.

J. P. Brashear, veteran retail druggist of Fort Worth, Texas, and member of the American Pharmaceutical Association, died January 18 from injuries received on the night previous, when he was knocked down by an automobile.

Mr. Brashear came to Fort Worth about thirty years ago, first engaging as clerk, and later established the business of which he was owner at the time of his death. Fort Worth druggists closed their stores and attended the funeral in a body, evidencing the high regard in which he was held as frater and citizen.

The deceased is survived by his widow and several children. He was deeply interested in association work, and always contended that membership in the various drug organizations was not only beneficial, but he considered such support a duty.

E. G. E.

BOOK REVIEWS AND NOTICES

Supplement to the British Pharmaceutical Codex, 1911, including additions, alterations, and corrections. Published by direction of the Council of the Pharmaceutical Society of Great Britain, London. The Pharmaceutical Press, 17 Bloomsbury Square, W. C., 1915. Price, one shilling net.

This pamphlet of 75 8vo pages contains particulars of important additions and alterations which have become necessary since the work was published, and includes new monographs, galenical formulæ, a list of substances with proprietary names and their chemical equivalents, a list of alterations in the text of the British Pharmaceutical Codex, 1911, necessitated by the publication of the British Pharmacopœia, 1914, a list of British Pharmaceutical Codex, 1911, Corrigenda, and an index of nine 3-column pages, containing upward of 1300 references, and indicating the varied nature and comprehensiveness of the material discussed in the pamphlet under review.

The list of substances, with proprietary trade names and their chemical equivalents, embodies an attempt to develop and systematize a series of short, non-proprietary names by the adoption, so far as possible, of the following rules:

Alkaloids and other basic substances to have names ending in "*-ine*."

Local anæsthetics, if basic in nature, to have names ending in "*-caine.*"

Antipyretics to have names ending in "*-in.*"

Hypnotics to have names ending in "*-al.*"

Antiseptics, for external use, to have names ending in "*-form.*"

On the basis of this proposed system a number of non-proprietary names have been coined for synthetic chemicals of a proprietary nature. Unfortunately many of these names appear to contain but a remote suggestion to the chemical name or composition of the article and bear practically no resemblance to the advertised proprietary name by which the article is known or used. The coined non-proprietary name at best will find but limited use, and there may be some reasonable doubt as to the propriety of adding to the existing confusion by coining additional names.

If manufacture could be induced to follow some reasonable system as the basis for new compounds, much might be accomplished in the way of developing a more rational nomenclature for new remedies of a synthetic nature.

M. I. W.

SAW PALMETTO, A PHYTOCHEMICAL STUDY OF THE FRUIT OF SABAL SERRULATA.

A thesis under the above title was submitted by Charles August Mann, instructor in chemical engineering at the University of Wisconsin, for the degree of Doctor of Philosophy, and has been issued as a bulletin of the University from the Course in Pharmacy of that institution. The author takes up the synonymy, natural history, and chemistry, and finally presents the bibliography, in which a number of the articles are concisely abstracted.

Quoting the author in his conclusions, the volatile oil so-called, *i.e.*, the mixture of ethyl esters of fatty acids, that is contained in alcoholic galenicals of the drug, is not a volatile oil in the generally accepted sense of the term. Neither is it a so-called ferment oil, resulting upon the hydrolysis of a glucoside, such as the oils of wintergreen, sweet birch, mustard, etc. It is formed by condensation of the free fatty acids, which are naturally contained in the berries, with ethyl alcohol, the preservative. Small amounts of ethyl esters are formed upon fermentation of a sugar, contained in the berries, to ethyl alcohol, if the fresh berries are allowed to stand when they undergo the necessary chemical changes. Considerably larger amounts, however, are formed when, as previously stated, the berries are preserved in alcohol.

Mere traces of volatile oil may be obtained from fresh berries, but this does not consist of ethyl esters, at least not to any appreciable extent, but of such of the free fatty acids of the berry as are volatile with water vapor. Owing to the presence of higher fatty acids such an oil is semi-solid. To this extent the true volatile oil of saw palmetto resembles that of the cocoanut, the only other oil of the palm family known at present. Whether a further analogy exists between these two volatile oils cannot be decided until much larger quantities of fresh berries can be distilled, so that sufficient volatile oil for a chemical investigation may be obtained.

Although the enzyme lipase has been demonstrated to exist in the berry, its presence is not necessary to explain the condensation of the ethyl alcohol with the free fatty acids to the corresponding ethyl esters. Indeed, the alcohol may even interfere with, if not completely inhibit, the enzyme action if sufficient alcohol could be used. Prolonged contact between the ethyl alcohol and the individual acids has shown that in each case the formation of esters can be accounted for without enzymes or other so-called catalytic agent.

Relative to an alkaloid, the author states that in order to ascertain whether the berries contain basic substances as such, a systematic search for alkaloids was made and repeated with several slight modifications. No decided tests, however, could be obtained with the general alkaloid reagents used.

He assumes that the basic substance or substances obtained by heating the berries with an aqueous solution of barium hydroxide were products of hydrolysis, probably of proteins. The slight indications for alkaloid obtained with some of the general alkaloidal reagents in the special search for alkaloids he likewise attributes to similar changes on a much smaller scale.

TOBACCO LEAVES.

The book under the above caption is published by the Collegiate Press, Menasha,

Wis.; the author is W. A. Brennan, of the Department of Medical Sciences, The John Crerar Library. The interesting book is divided into chapters devoted to the history, botany, and chemistry of the tobacco plant, while other chapters are concerned with the cultivation of tobacco and its manufacture into the various forms in which it is consumed. The effects are also considered; in fact, there is little left unsaid regarding this important "drug," and the story is told throughout in an interesting and readable style.

Aside from the interest the book has for the reader, there is in it much valuable information for the dealer. The reference to this book, which came to the editor's desk, was prompted by both the latter thoughts, as many druggists are not only consumers of but dealers in cigars and tobacco.

PROCEEDINGS OF THE AMERICAN ASSOCIATION OF PHARMACEUTICAL CHEMISTS.

The 1915 proceedings of the American Association of Pharmaceutical Chemists have been published in a bound volume of about 300 pages. A valuable appendix presents the Federal narcotic law, rules and regulations, with Treasury decisions.

The book contains all the transactions of the Rochester convention, together with the many interesting and valuable reports presented during the 1915 meeting. The report of the Committee on Legislation includes a synopsis of recent legislation affecting the drug trade.

The officers are: B. L. Maltbie, Newark, N. J.; first vice-president, E. S. Holt, Cedar Rapids, Iowa; second vice-president, J. W. Haynie, Columbus, Ohio; secretary-treasurer, C. H. Searle, Chicago, Ill.

SOCIETIES AND COLLEGES

NATIONAL ASSOCIATION OF MANUFACTURERS OF MEDICINAL PRODUCTS.

The fifth annual meeting of the National Association of Manufacturers of Medicinal Products was held in the Waldorf-Astoria of New York City, February 3 and 4.

President H. C. Lovis, in his address, commented on the general improvement of the business. Aside from the influence of the European war, he contended that there was a steady, healthy, and substantial growth of the industries. He spoke for encouragement of botanical drug culture; endorsed the aims and provisions of the so-called Hill bill for protection of American manufacturers of dyestuffs, and pointed out the need for an American merchant marine.

President Lovis renewed his former recommendations that the association work for the adoption of a uniform narcotic law, for resale price protective measures, and opposed any changes in the National Food and Drugs Act.

Secretary Charles M. Woodruff presented a lengthy and interesting report. In this he raised the question as to whether the decision of the United States Supreme Court, in holding the Shirley amendment to the Food and Drugs Act constitutional, sanctioned the Board of Food and Drugs Inspection in attempting to direct what statements may be made and what opinions expressed respecting drugs known not to be inert and having generally recognized therapeutic properties.

He opposed amendments to the Harrison Law, and contended for definite measures that would admit medicinal preparations containing poisons in therapeutic doses to the mails. Mr. Woodruff opposed formula disclosure measures.

The report of the Committee on Legislation included a commentary and summary of laws affecting the drug trade, and submitted a series of recommendations embodying the views of the Association on important legislation.

The Association denounced efforts to renounce legislation similar to that proposed in the Paige Patent Law Revision Bill. The Association was favorable to provisions which would by proper and strict regulation preserve medicinal drugs from destruction by the authorities and thus becoming economic waste.

Representatives of various allied associations were present and were given recognition. Members of this association who had been in attendance at the conventions of other related associations reported as delegates.

Among the addresses delivered before this convention was one by Dr. J. H. Beal, on behalf of the American Pharmaceutical As-

sociation, and is printed in this number of the Journal.

Dr. Thomas H. Norton, special agent of the Bureau of Foreign and Domestic Commerce, delivered an interesting address on this country's foreign trade expansion and on the growing coal-tar chemical industry in the United States.

A banquet at the Waldorf-Astoria on the evening of February 4 concluded the annual meeting, and this was the only entertainment specially provided for the convention.

The following were elected officers and members of the Executive Committee: President, Charles J. Lynn, of Eli Lilly & Co., Indianapolis, Ind., succeeding Dr. Henry C. Lovis, of Seabury & Johnson, New York; vice-president, R. C. Stofer, of the Norwich Pharmacal Company, Norwich, N. Y., succeeding Josiah K. Lilly, of Eli Lilly & Co., Indianapolis, Ind.; treasurer, Franklin Black, of Charles Pfizer & Co., New York, reelected; secretary, Charles M. Woodruff, of Parke, Davis & Co., Detroit, Mich., reelected. Wilfred J. Woodruff will continue to serve as assistant secretary.

Executive Committee: Dr. Alfred R. L. Dohme, of Sharp & Dohme, Baltimore, Md.; B. L. Murray, of Merck & Co., New York, and the president, treasurer, and secretary in *ex-officio* capacity.

DRUG TRADE SECTION, NEW YORK BOARD OF TRADE.

A report presented by the Legislative Committee of the Drug Trade Section of the New York Board of Trade and Transportation at the latest monthly meeting of that body, held February 2, has brought to light the fact that considerable progress has already been made by conferences of medical, pharmaceutical, legislative, judicial, and civic reform interests of this city and state in the direction of drafting a new model uniform narcotic measure for adoption in all the states which will conform in all respects to national legislation on this subject.

Thos. F. Main called the attention of the section's members to the so-called Dill Bill, known as House of Representatives Bill 150, introduced into Congress by Representative Dill, of Oklahoma, which, under the guise of establishing a standard for weights and measures for agricultural products, provides that the director of standards of the United States Department of Commerce shall have control over all weights and measures in this country. Considerable opposition to this measure was voiced by various members of the section, and the matter was referred to the Committee on Tares as well as to the Committee on Legislation.

The new officers are: Chairman, Frank L. McCartney, of Sharp & Dohme; vice chairman, J. Edward Young, Jr., of Thurston & Braidich; treasurer, William A. Hamann, of Roessler & Hasslacher Chemical Company; secretary, William F. McConnell. To represent Drug Trade Section as director in New York Board of Trade and Transportation, Irving McKesson, of McKesson & Robbins.

Executive Committee: Howell Foster, of Schieffelin & Co.; Frederick E. Watermeyer, of Fritzsche Brothers; John T. Barry, of D. D. Williamson & Co.; Charles C. Bruen, of Bruen, Ritchey & Co.; Turner F. Currens, of Norwich Pharmacal Company.

PENNSYLVANIA PHARMACEUTICAL ASSOCIATION ACTIVITY.

The Committee on Publicity of the Pennsylvania Pharmaceutical Association, consisting of Professor Charles H. LaWall, Edgar F. Heffner, and Charles F. Kramer, is doing effective work, indicated by results. This committee sends out items of news relating to the drug trade and in which the public is interested, for publication in newspapers. One of the most recent items related the advanced cost of chemicals. The articles were printed in full by many papers, while a few published abstracts. Such endeavor brings the public in touch with the druggists, benefits the latter, and gives information to the former.

WEDGEWOOD CLUB, OF BALTIMORE.

The Wedgewood Club, of Baltimore, held a social session at the Hotel Joyce on the evening of January 27, which attracted a large attendance. John B. Thomas, of the Thomas & Thompson Drug Company, presided, and the company was edified with addresses by Thomas Lyons, an advertising man, on "Evolution"; by Henry P. Hynson, of Hynson, Westcott & Co., on "Ella Wheeler Wilcox"; by James E. Hancock, of John F. Hancock & Co., on "Revolution," and by R. E. Lee Williamson, of the Calvert Drug Company, on "Evolution and Revolution in Its Effect Upon Poetry."

SILVER ANNIVERSARY OF THE GERMAN PHARMACEUTICAL SOCIETY.

The twenty-fifth anniversary of the founding of the German Pharmaceutical Society was celebrated recently at the pharmaceutical institute of the University of Berlin. The meeting was presided over by Professor H. Thoms, and representatives of the educational, sanitary, patent, and military branches of the government were present to extend congratulations, as were also delegates from chemical and pharmaceutical societies.

Addresses were made by the presiding officer and by Professor Emil Fischer, after which Professor Wellstaetter, the newly-appointed successor to Professor Baeyer at the University of Munich, gave the festival lecture on "Anthocyan."

NATIONAL ASSOCIATION OF DRUG CLERKS.

The Executive Committee of the National Association of Drug Clerks, at its January meeting, held in Chicago, decided to hold the 1916 convention of the association on Thursday, Friday, and Saturday, June 1, 2, and 3, at the Hotel Sherman, in Chicago. The association will coöperate at this time with other national organizations in holding a three-day drug exhibit which will be open to the public.

BOSTON ASSOCIATION OF RETAIL DRUGGISTS.

The annual meeting and dinner of the Boston Association of Retail Druggists, held January 12, was attended by about one hundred members. Among the speakers of the evening were James F. Finneran and Frank F. Ernest; the former spoke of legislation and the latter on propaganda work.

Appropriate resolutions were adopted on the death of S. A. D. Sheppard. Michael J. Gallahue, of South Boston, was elected to membership. Mr. Waterhouse was re-elected president, and other officers were elected as follows: John J. Tobin, of South Boston, first vice-president; W. H. Pierce, of Boston, second vice-president; Leon A. Thompson, of Boston, third vice-president; Charles H. Davis, of Dorchester, secretary; Lyman W. Griffin, of Boston, treasurer.

AMERICAN DRUGGISTS' SYNDICATE.

The annual meeting of the American Druggists' Syndicate was held in Madison Square Garden, New York City, January 17.

Secretary Charles H. Goddard, in his report, tabulated the growth of membership and financial assets of the association, which showed that in ten years the organization had increased its membership from 1000 to 24,500 and assets from $30,000 to $3,850,000.

The retiring president is Dr. William C. Anderson, whose report constituted one of the interesting and important features of the session.

The newly-elected officers are: Permanent president, Charles H. Goddard; vice-presidents, W. C. Anderson, H. W. Merritt, E. W. Stucky, and G. H. Cherrington; secretary, A. L. Bailey; treasurer, G. W. Luft; directors, E. L. Weston, G. H. Cherrington, G. W. Hackenberger, W. G. Frailey, and A. L. Bailey.

OFFICERS RHODE ISLAND PHARMACEUTICAL ASSOCIATION.

The officers elected at the annual meeting of Rhode Island Pharmaceutical Association, held in Providence, January 12, are: President, Nicholas F. Reiner; vice-president, Edwin D. Robbins; secretary, Earl O. Swindell; treasurer, Earl H. Mason; Executive Committee, Alfred Johnson, Jr., Edward T. Colton, and Michael H. Corrigan, of Providence.

MINNESOTA PHARMACEUTICAL ASSOCIATION.

The Minnesota Pharmaceutical Association held its annual convention in the West Hotel, Minneapolis, February 8 to 10.

N. A. R. D. Secretary T. H. Potts was the guest of the association and delivered an address on "National and State Legislation." The Northwestern branch of the American Pharmaceutical Association met jointly with the state association at several sessions.

PHILADELPHIA DRUG EXCHANGE.

The fifty-fifth annual meeting of the Philadelphia Drug Exchange was held January 25 and brought together a large number of the members.

The officers of 1915 were re-elected to their respective positions, namely: President, John Fergusson; vice-president, Harry B. French; secretary, Joseph W. England; treasurer, Anthony M. Hance; directors, Charles E. Hires, A. Robinson McIlvaine, Dr. Adolph W. Pfromm, Adolph G. Rosengarten, Clayton F. Shoemaker, Richard M. Shoemaker, and Walter V. Smith.

The annual report of the Board of Direc-

tors, read by its author, Clayton F. Shoemaker, reviewed the country's business and legislation of the year, particularly of the drug trade, in a most interesting and instructive manner.

On January 27 the annual banquet took place at the Ritz-Carlton Hotel, when more than 150 members were present; among the latter, visitors from New York, Baltimore, Trenton, etc. The entertainment features were in charge of Chairman Walter V. Smith and his associates of the entertainment committee, Clayton F. Shoemaker and Adam Pfromm. The diners joined in popular airs led by professional singers.

President John Fergusson presided as toastmaster; the speakers of the evening were E. G. Eberle, Leroy Oldham, of Baltimore; former Congressman Reuben O. Moon, Rev. Robert Johnston, rector of the Church of the Saviour, and Councilman Joseph P. Gaffney.

The address of the first speaker reviewed briefly the history of the American Pharmaceutical Association, and he spoke for cooperation in upbuilding pharmacy. He contended that if the attention of men of means were directed they would as willingly endow institutions for teaching pharmacy and give support to associations as they are in furthering other worthy undertakings. The speaker closed with a pledge of coöperation on the part of the Journal, and expressed the hope that friends among the members of the Exchange would help him to make the Journal serve in a broader way, if possible, the aims and policies of the Association and the interests of pharmacy in general.

Mr. Oldham brought greetings from the druggists of Baltimore, and, after extending these, delighted the audience with incidents showing the characteristics of the old negro "mammy" and "uncle," many of which had occurred in his boyhood days.

Former Congressman Reuben O. Moon, a member of the Philadelphia Bar, pointed out the dangers of the policy of preparedness. He showed how, after centuries spent in perfecting the world's civilization, it had been proved to be but a veneer that had been swept aside by the nations of Europe in their return to barbarism. The great defect in that civilization had been the worship of effectiveness. He showed that the great danger of military preparedness was in being swept over the line through a knowledge of its existence.

In strong contrast to the conservative views of Mr. Moon were those of the next speaker, the Rev. Robert Johnston. He explained that he had intended to speak in a lighter vein, but that he could not, after hearing the address of the preceding speaker.

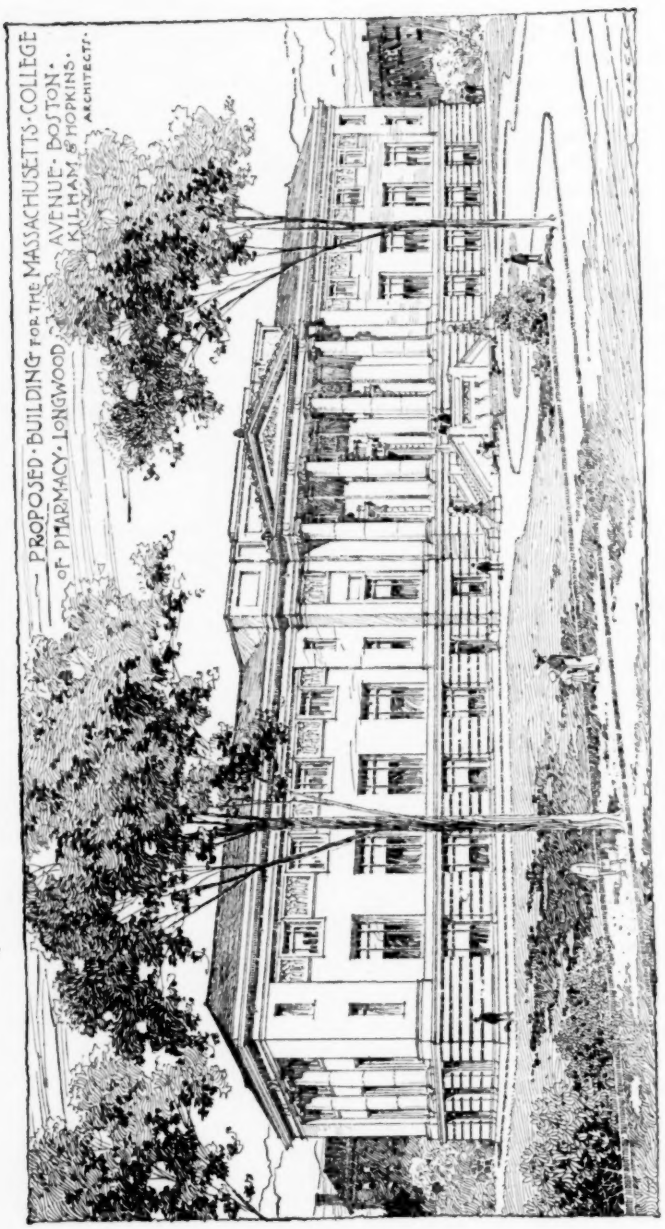
"I don't believe in the danger of militarism," he declared, "but I do believe in the effect upon others of being prepared on general principles to maintain our dignity and our position."

In close keeping with the subjects discussed by Messrs. Moon and Johnston was the description of the recent trip of the Liberty Bell from Philadelphia to San Francisco, given by Councilman Joseph P. Gaffney, a member of the committee which accompanied this revered relic from this city. Stereopticon views showed how the patriotism of the entire country had been stirred by the sight of the old bell that had proclaimed the freedom of the American people so many years ago.

A NEW BUILDING PLANNED FOR THE MASSACHUSETTS COLLEGE OF PHARMACY.

The Massachusetts College of Pharmacy is actively planning for a new building to be erected on the fine site purchased a few years ago at the corner of Brookline and Longwood Avenues, Boston, very near the new buildings of the Harvard Medical School and in the great centre of medical education and practice that is being developed in this part of Boston. In the immediate neighborhood are the Brigham Hospitals, the Children's Hospital, Harvard Dental School, Tufts Medical and Dental Schools, the Psychopathic Hospital, and the Huntington Cancer Hospital, the Carnegie Nutrition Laboratory, and many other institutions of a similar nature.

The building is to be of an impressive character that will add much, in the eyes of the general public, to the dignity of the profession of pharmacy. The first floor is to be at ground level, and will contain the chemistry and pharmacy laboratories, with apparatus rooms and instructors' rooms, a large study-room for men students, and also the heating plant and janitor's workshop. The middle or main floor will contain two lecture-rooms, each with about three hundred seats; the Trustees' room, general offices, library, women's study-room and rooms for the professors. The upper floor will



PROPOSED BUILDING FOR MASSACHUSETTS COLLEGE OF PHARMACY.

contain the materia medica laboratory with its stock-room, the bacteriological laboratory, recitation rooms, alumni room, and various other rooms of varying size and importance. In the central portion of the upper floor a large assembly room is to be included, with a capacity of 500, a stage at one end, and storerooms adjoining. This room may be used for conventions, receptions, and other social purposes, and for the commencement exercises of the college.

This college is in possession of an endowment amounting to $240,000, but no part of the principal of this endowment is to be used. The new building, with its equipment, exclusive of its site, will cost in the neighborhood of $200,000, of which a part is to be obtained by the sale of the present building and its site, and a part is being raised by a campaign now under way. It may be necessary to put a mortgage on the building for a part of its cost, but it is hoped that this will be small in amount.

UNIVERSITY OF ILLINOIS SCHOOL OF PHARMACY.

The University of Illinois has purchased for its School of Pharmacy a new site located at the corner of Wood and Flournoy Streets, Chicago, immediately opposite the new Cook County Hospital, and affording a frontage of 201 feet on Wood Street and 128 feet on Flournoy Street. The purchase includes two substantial brick buildings erected for the Chicago Homœopathic Medical College and Hospital some years ago. These buildings will be put into shape at once, and it is expected that the school will remove to its new quarters immediately following the close of the present school year. The new location is in the great medical centre of Chicago and only a short distance from the Medical and Dental Colleges of the University, which will bring the three Chicago departments of the University into much closer relations. In the immediate neighborhood are also the Rush Medical College, the Presbyterian Hospital, the Chicago Dental College, and several other similar institutions.

It is planned to use the larger building for the offices, library, museum, lecture halls and microscopical laboratory, and several smaller laboratories. This building is four stories in height and contains an amphitheatre with a seating capacity of 300, as well as two smaller lecture-rooms and several laboratories. The hospital building, three stories in height, will be refitted for the pharmaceutical and chemical laboratories exclusively.

The school has heretofore occupied rented quarters. Its present location at Michigan Avenue and Twelfth Street, where it has the four upper floors of a large brick building, has been occupied by it since 1904. From 1885 to 1904 the school was located on State Street, near Polk Street. The alumni and friends of the school have been engaged for many years in an effort to bring about the purchase of property where the school could be suitably and permanently located, and at last their efforts have brought fruit and their hopes are about to be realized. The new location will make possible several improvements in the courses and equipment which the faculty of the school have had in mind for some time. The President and Trustees of the University have given assurance that means will be provided to put the school in first-class shape in every respect.

UNIVERSITY OF CALIFORNIA.

The Bureau of Correspondence Instruction of the University of California Extension Division has just completed the arrangements for giving a correspondence course in Home Sanitation and the Prevention of Disease, which is open to the general public. The course is arranged by Dr. Albert Schneider, of the College of Pharmacy of the University of California. It is believed that this course is of special value and interest to pharmacists.

SCHOOL OF PHARMACY, MEDICAL COLLEGE OF VIRGINIA.

Mr. Charles O. Lee, who for two years was in charge of the work in Botany and Materia Medica in the above-named school, has accepted a position in the Pharmacy Department of Purdue University. Mr. Philip F. Fackenthall, who for some years was assistant to Professor Kraemer, of Philadelphia College of Pharmacy, has been elected to fill the place made vacant by Mr. Lee's resignation.

The pharmacists of Virginia are working vigorously for the passage of a prerequisite law by the Virginia Legislature, which is now in session.

The state association has already voted unanimously for this progressive measure, and the prospect for its passage seems excellent.

NEW YORK COLLEGE OF PHARMACY.

Professor Homer St. Clair Pace delivered a lecture on the subject of "Business Training for Pharmacists" at the January meeting of the New York College of Pharmacy. Professor Pace in his address said that capital and effort were most important for successful business; however, that most business failures were not due to lack of effort but of sound business judgment.

Some time of the session was devoted to the reading of obituaries of W. M. Massey, Brent Good, and Anton Vorisek. The first was read by Mr. Costello, the second by T. F. Main, and the last by C. P. Wimmer. Comments on the life and work of the deceased were made by Irving McKesson, T. J. McMahan, T. F. Main, C. A. Mayo, H. V. Arny.

IOWA COLLEGE OF PHARMACY.

Under the auspices of the Department of Pharmacy of the University of Iowa, and with the encouragement of the Iowa Pharmaceutical Association, a short course for pharmacists has been inaugurated. The first session was held January 18 and 19, and an intensely interesting program was provided. The subjects were presented by men well known for their success in business life and proficiency in teaching pharmacy. We hope to have several of these addresses in this and succeeding issues of the Journal of the American Pharmaceutical Association.

This endeavor is to be commended, for there is sufficient publicity attached for acquainting the public with the importance of pharmacy.

THE PHARMACIST AND THE LAW

THE STEPHENS BILL.

House Bill No. 9671, referred to in an editorial of this issue, reads as follows: "Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in any contract for the sale of articles of commerce to any dealer, wholesale or retail, by any grower, producer, manufacturer, or owner thereof, under trade-mark or special brand, hereinafter referred to as the 'vendor,' it shall be lawful for such vendor, whenever the contract constitutes a transaction of commerce among the several states, or with foreign nations, or in any territory of the United States, or in the District of Columbia, or between any such territory and another territory, or between any such territory or territories and any states or the District of Columbia, or with a foreign nation or nations, or between the District of Columbia and any state or states or a foreign nation or nations, to prescribe the uniform prices and manners of settlement at which the different qualities and quantities of each article covered by such contract may be resold; *Provided*, That the following conditions are complied with:

"(*a*) Such vendor shall not have any monopoly or control of the market for articles belonging to the same general class of merchandise as such article or articles of commerce as shall be covered by such contract of sale; nor shall such vendor be a party to any agreement, combination, or understanding with any competitor in the production, manufacture, or sale of any merchandise in the same general class in regard to the price at which the same shall be sold either to dealers at wholesale or retail or to the public.

"(*b*) Such vendor shall file at the office of the Federal Trade Commission a statement setting forth the trade-mark or special brand owned or claimed by such vendor in respect of such article or articles of commerce to be covered by such contract of sale, and also, from time to time, as the same may be adopted or modified, a schedule setting forth the uniform price of sale thereof to dealers at wholesale, and the uniform price of sale thereof to dealers at retail from whatever source acquired, and the uniform price of sale thereof to the public, and upon filing such statement such vendor shall pay to the Federal Trade Commission a registration fee of $10. Prices set forth in such schedule and made in any contract pursuant to the provisions of this act shall be uniform to all dealers in like circumstances, differing only as to grade, quality, or quantity of such articles sold, the point of delivery and the manner of settlement, all of which differences shall be set forth in such schedule; and there shall be no discrimination in favor of any vendee by the allowance

of a discount, rebate, or commission for any cause, or by grant of any special concession, or by any other device whatsoever.

"(*c*) Such contracts for the sale of such article or articles of commerce may provide for seasonal disposal sales, twice yearly at appropriate times, by dealers at retail, during which periods, duly set forth in such statement or in such schedule of prices as shall be filed by such vendor, such dealers at retail may sell such article or articles of commerce for a price other than the uniform price as set forth in the schedule provided in the preceding paragraph (*b*); *Provided*, That such article or articles of commerce shall have first been offered to the vendor, by such dealer at retail, by written offer, at the price paid for the same by such dealer, and that such vendor, not less than thirty days prior to the date set forth for the next seasonal disposal sale, after reasonable opportunity to inspect such article or articles, shall have refused or neglected to accept such offer.

"(*d*) Any article of commerce or any carton, package, or other receptacle inclosing an article or articles of commerce covered by such contract and in the possession of a dealer may be sold for a price other than the uniform price for resale by such dealer for such quality and quantity as set forth in the schedule provided in the preceding paragraph (*b*): First, if such dealer shall cease to do business and the sale is made in the course of winding up the business of such dealer, or if such dealer shall have become bankrupt, or a receiver of the business of such dealer shall have been appointed; *Provided*, That such article or articles of commerce shall have first been offered to the vendor thereof by such dealer or the legal representative of such dealer by written offer at the price paid for the same by such dealer, and that such vendor, after reasonable opportunity to inspect such article or articles, shall have refused or neglected to accept such offer; or, second, if such article of commerce or contents of such carton, package, or other receptacle shall have become damaged, deteriorated, or soiled: *Provided*, That such damaged, deteriorated, or soiled article shall have first been offered to the vendor by such dealer by written offer at the price paid for the same by such dealer, or at the option of such vendor, in exchange for similar articles not damaged, deteriorated, or soiled, and that such vendor, after reasonable opportunity to inspect such article or articles, shall have refused or neglected to accept such offer, and that such damaged, deteriorated, or soiled article shall thereafter only be offered for sale by such dealer with prominent notice to the purchaser that such article is damaged, deteriorated, or soiled and that the price thereof is reduced because of such damage.

"Sec. 2. That the provisions of this act shall not apply in cases of sales of such article or articles of commerce to the United States, or in cases of sales of such articles to any state or public library, or to any society or institution incorporated or established solely for religious, philosophical, educational, medical, scientific, or literary purposes, made in good faith for use thereof by such society or institution."

ADDITIONS TO BRITISH CONTRABAND LIST.

Cork and cork dust, acetones, and raw or finished materials capable of use in their preparation and compounds of phosphorus have been added to the British contraband list.

THE FOOD AND DRUGS ACT.

Representative Barkley, of Kentucky, has introduced a bill providing for absolute prohibition of the manufacture, sale, or transportation in interstate commerce of misbranded articles. This bill also proposes to transfer the question of determining standards to the U. S. Bureau of Standards.

Section 6 of the act is involved in the proposed measure.

STANDING OF DRUGS IN INDEX OF UNITED STATES PHARMACOPŒIA.

In the opinion of the Bureau of Chemistry, an article sold under a name recognized in the index, but not appearing in the text, of the United States Pharmacopœia is a drug within the meaning of section 6 of the Federal food and drugs act. Such an article is adulterated under the provisions of the act if it differs from the standard of strength, quality or purity as determined by tests laid down in the United States Pharmacopœia official at the time of investigation, unless its own standard of strength, quality, or purity is plainly stated upon the bottle or box or other container.

QUANTITY STATEMENTS.

A decision amending regulation 29, covering the marking of quantity of package forms, strikes out paragraphs (*d*) and (*e*) and substitutes therefor the following:

"(*d*) If the quantity of the contents be stated by weight or measure, it shall be marked in terms of the largest unit contained in the package, except that, in the case of an article with respect to which there exists a definite trade custom for marking the quantity of the article in terms of fractional parts of larger units, it may be so marked in accordance with the custom. Common fractions shall be reduced to their lowest terms; decimal fractions shall be preceded by zero and shall be carried out to not more than two places.

"(*e*) Statements of weight shall be in terms of avoirdupois pounds and ounces; statements of liquid measure shall be in terms of the United States gallon of 231 cubic inches and its customary subdivision, *i.e.*, in gallons, quarts, pints or fluidounces, and shall express the volume of the liquid at 68° F. (20° C.); and statements of dry measure shall be in terms of the United States standard bushel of 2150.42 cubic inches and its customary subdivisions, *i.e.*, in bushels, pecks, quarts, or pints; *Provided*, That statements of quantity may be in terms of metric weight or measure. Statements of metric weight should be in terms of kilogrammes or grammes. Statements of metric measure should be in terms of litres or centilitres. Other terms of metric weight or measure may be used if it appears that a definite trade custom exists for marking articles with such other terms and the articles are marked in accordance with the custom."

CHANGES OF ADDRESS.

All changes of address of members should be sent to the General Secretary promptly. The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the Journal unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given, thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

DUERR, GEORGE J.
From 121 Wyckoff Ave., Brooklyn, N. Y.
To 678 Seneca Ave., Brooklyn, N. Y.

STROUP, A. S.
From Monte Vista, Colo.
To 205 N. Main St., Pueblo, Colo.

DOLIBER, F. N.
From 221 Columbus Ave., Boston, Mass.
To 261 Franklin St., Boston, Mass.

GIDLEY, W. F.
From care of Purdue University, Oak St., W. Lafayette, Ind.
To care of Purdue University, 220 Sylvia St., Lafayette, Ind.

KALUSOWSKI, H. E.
From 808 First St., N. W. Washington, D. C.
To 808 Eye St., N. W. Washington, D. C.

MILLER, I. B.
From Main St., Cape Girardeau, Mo.
To 5-7 Main St., Cape Girardeau, Mo.

LYMAN, R. A.
From 1641 S. 21st St., Lincoln, Neb.
To 1949 S. 21st St., Lincoln, Neb.

BURKETT, K. S.
From 1620 Antrim St., Pittsburgh Pa.
To 838 Ridge Ave., Pittsburgh, Pa.

GRANT, J. H.
From Jacksboro, Tenn.
To Jellico, Tenn.

GREEN, BENJ.
From 12 Market Square, Portsmouth, N. H.
To 1 Market Square, Portsmouth, N. H.

ROOT, N. F.
From 63 Main St., Brattleboro, Vt.
To 105 Main St., Brattleboro, Vt.

LANGE, L. A.
From 486 Market St., Milwaukee, Wis.
To care of Yahr and Lange Drug Co., Milwaukee, Wis.

RUPERT, J. F.
From H. S. U. S. Naval Hospital, Las Animas, Colo.
To U. S. S. Prometheus, Mare Island, Cal.

MALTBIE, B. L.
From 350 High St., Newark, N. J.
To Altamonte Springs, Fla.

HERETH, F. S.
From 23 Vine St., Brooklyn, N. Y.
To Richmond, Cal.

WILSON, L. S.
From Box 2016 Globe, Ariz.
To Box 1001 Douglas, Ariz.

PILLSBURY, A. L.
From Box 1702, Denver, Colo.
To Box 749, Denver, Colo.

SHOWALTER, R. N.
From 3338 N. Illinois St., Indianapolis, Ind.
To 3869 No. Delaware, Indianapolis, Ind.

ELLIOT, CHAS. E.
From Texas City, Texas.
To Sgt. 1st C. H. C 23rd Infantry, U. S. A. Galveston, Texas.

HARMS, HERMAN
From 312 Boyd Park Bldg., Salt Lake City, Utah.
To State Capitol, Salt Lake City, Utah.

WAR DEPARTMENT

List of changes of stations covering period ending January 31, 1916, in the cases of Sergeants First Class and Sergeants.

SERGEANTS FIRST CLASS.

Ephraim Stevenson, from Ambulance Company No. 1, to Ft. Canby.

Emmett C. Kauffman, from Field Hospital Company No. 1, to the Hawaiian Department, on the March transport.

William D. Voorhis, from Ft. Sheridan, to the Southern Department, for assignment.

Charles N. Abel, from Ft. Oglethorpe, to the Southern Department, for assignment.

Bernhard Anderson, from Field Hospital Company No. 2, to Benicia Arsenal.

Otto H. Hornung, from Benicia Arsenal, to the Hawaiian Department, on the March transport.

John B. Anderson, from Ft. Sam Houston, to the Philippines Department, on the March transport.

John O. Brown, from Ft. Mott, to the Hawaiian Department, on the March transport.

SERGEANTS.

Adolph Gerstenzang, from Vancouver Barracks, to Ft. Hancock.

George Bruley, from Ft. Brady, to Ft. Riley.

Walter S. McWhorter, from Jefferson Barracks, to Army and Navy General Hospital.

Charles Brown, from Ft. Oglethorpe, to Ft. Logan H. Roots.

Robert H. Blanche, from Ft. Logan H. Roots, to Ft. Oglethorpe.

John M. Bayless, from the Hawaiian Department, to the United States for retirement.

Max W. Minser, from the Philippines Department, to Ft. McDowell, Cal.

Alexander Hepburn, from the Philippines Department, to Ft. Jay.

John F. Stever, from Ft. Hamilton, to the cable boat *Joseph Henry*.

Brent, A. Lemert, from Militia Duty of the State of N. C., to Ft. Wadsworth.

Pharmacist E. B. Scott. Granted 7 days' leave of absence from December 23, 1915. December 21, 1915.

Pharmacist L. C. Spangler. Granted 4 days' leave of absence, to be taken before December 31, 1915. December 20, 1915.

Assistant Physicist D. H. Tuck. Directed to proceed to points outside of the city of Pittsburgh to make studies of illumination in industrial plants. December 29, 1915.

APPOINTMENT.

Thomas C. Armstrong appointed a Pharmacist of the third class in the Public Health Service. January 22, 1916.

THE NEW HOME OF THE JOURNAL

Our readers are aware that the publication office of the Journal of the American Pharmaceutical Association has been established, since the beginning of the year, in the rooms of the Philadelphia Drug Exchange; and believing that the members of the Association will be interested in knowing somewhat about the new location and environment of the Journal Office, the following sketch and views are presented.

THE PHILADELPHIA BOURSE.

The Philadelphia Bourse occupies a large and imposing building in the heart of the

OFFICE OF THE JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

commercial section of this city, extending from Fourth to Fifth Street and between Market and Chestnut Streets. In this building is housed not only the general exchange of the Bourse itself, but also many other industrial exchanges and organizations, among these the Philadelphia Drug Exchange.

The Philadelphia Drug Exchange is one of the oldest and largest of its kind in the country. It was organized January 22, 1861, for protecting and advancing the interests of the wholesale and manufacturing drug trade and allied interests. Men, widely known in the drug and chemical world, have been chosen as its officers, many of whom have been actively identified with the American Pharmaceutical Association. John Fergusson holds the office of president, at the present time, with J. W. England as secretary and Anthony M. Hance, treasurer. The membership is not confined to citizens of Philadelphia; New York, Pittsburgh, St. Louis and other cities being represented, also.

The Drug Exchange occupies two rooms on the second floor of the Bourse Building, and here the Editor of the Journal has found comfortable quarters, looked down upon by eminent men of the past and present, whose portraits adorn the walls of the office.

Within a few blocks of the Bourse is to be found the Lippincott establishment, where the Journal of the American Pharmaceutical Association is printed. J. B. Lippincott Company are widely known as printers of pharmaceutical literature, and the statement may be of interest that this firm has published the United States Dispensatory, which is now in its nineteenth edition, since its beginning. A number of the revisions of the United States Pharmacopœia bear the firm's imprint, as do also many of the books found in the pharmacist's library. Both the United States Pharmacopœia IX and National Formulary IV await their completion in this printing plant.

The name of Lippincott became associated with this publishing house in 1836, through Joshua B. Lippincott. The house, however, dates back to 1792, and was established by Jacob Johnston. The president of the company is J. Bertram Lippincott; vice-president, Joseph Wharton Lippincott; general manager, Alfred C. Balch; secretary, Horace S. Ridings, and treasurer, Ellis W. Bacon.

J. B. LIPPINCOTT COMPANY PUBLISHING HOUSE.

The home of this company is located on the east side of Washington Square, and is generally conceded to be one of the best equipped publishing houses of the country.

The Committee on Publication of the American Pharmaceutical Association consists of the following: J. W. England, chairman, and E. Fullerton Cook, Philadelphia; F. J. Wulling, Minneapolis; George M. Beringer, Camden, N. J.; Harry B. Mason, Detroit; with *ex-officio* officers, William B. Day, Chicago; H. M. Whelpley, St. Louis; Julius A. Koch, Pittsburgh, and E. G. Eberle, Philadelphia.

The out-of-town members of the American Pharmaceutical Association are cordially invited to visit the Editor in his new home, should they chance to be passing through the city of Philadelphia, where they will receive a most cordial welcome.

JOURNAL ANNOUNCEMENTS

Subscriptions: Annual subscriptions in advance, including postage: United States and Mexico, $4.00; Canada, $4.35; foreign countries, $4.50. Single copies, 35 cents. Remittances should be made payable to Treasurer H. M. Whelpley, but mailed to Journal of the American Pharmaceutical Association, 253 Bourse Building, Philadelphia, Pa. Under the rules of the Post Office the Journal can be regularly mailed only to bona-fide paid subscribers.

Requests for Back and Missing Numbers: Requests for back and missing numbers should be sent to the Editor. Claims will not be allowed if sufficient notice has not been given of change of address, and in no case if received later than sixty days from date of issue. Notice of change of address should give old and new address.

Contributions: The Journal accepts no responsibility for the opinion of its contributors. Contributions should be sent to the Editor; use only one side of the sheet for writing, and double-space the lines. Articles are accepted for publication on condition that they are contributed solely to this Journal; and "all papers presented to the Association and its Branches shall become the property of the Association, with the understanding that they are not to be published in any other publications than those of the Association, except by consent of the Committee on Publication." (By-Laws, Chapter X, Article 11.)

Reprints: Authors may obtain reprints of th· J. B. Lippincott Company, Philadelphia, Pa., at the prices attached to the proof sent them, provided the order is received before the type has been distributed. The prices are also given on this page.

Advertisements: Communications relating to advertising should be sent to the Editor. Forms close on the first of each month, and copy should be in by the fifteenth of the month preceding date of issue, to receive proof. Date of issue—the fifteenth of the month. Advertising rates sent on request.

Membership: Applications for membership in the American Pharmaceutical Association may be made of any of the officials. The annual payment of five dollars covers the annual dues and subscription to the Journal. Members receive, also, the publications of the Association that are distributed free of charge.

Further information will gladly be furnished by any of the officers of the Association and members.

An Application Blank will be found on last page of this issue.

Cost of Reprints: Reprints will be furnished at the following prices:

	No cover	With cover
100 copies, 4 pages ..	$2.50	$4.50
200 copies, 4 pages ..	3.00	5.50
50 copies, 8 pages ..	2.75	4.50
100 copies, 8 pages ..	3.50	5.00
200 copies, 8 pages ..	4.50	6.50
50 copies, 12 pages ..	3.75	4.75
100 copies, 12 pages ..	4.75	5.75
200 copies, 12 pages ..	5.75	6.75
100 copies, 16 pages ..	6.75	7.75
200 copies, 16 pages ..	7.50	8.50

Orders may be sent to J. B. Lippincott Company or Journal of the American Pharmaceutical Association, 253 Bourse Building, Philadelphia, Pa.

BADGES AND BARS.

Members who desire the official badges and bars for the meetings they may have attended are invited to correspond with the General Secretary. He is able to furnish from his stock the bars for the following meetings:

Asheville, 1894; Denver, 1895; Montreal, 1896; Lake Minnetonka, 1897; Put-in-Bay, 1899; St. Louis, 1901; Atlantic City, 1905; Hot Springs, 1908; Richmond, 1910; Denver, 1912; Nashville, 1913; Detroit, 1914; San Francisco, 1915.

The badge sells for $2.00, and the bars at 75 cents each, beginning with 1899, those of prior meetings at 60 cents. Bars for meetings not mentioned may be made to order.

Address, W. B. Day, General Secretary, 74 East Twelfth Street, Chicago.